	A	B
1	New Indicator	
2	**Indicator 1A (Outcome Level)**	**Provide a list and brief description of recommended risk mitigation approaches implemented and/or scaled up *please include viral family if relevant**
3	**Indicate Country, Region or Global**	
4		
5		
6		
7		
8		
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12		
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14		
15		
16		
17		
18		
19		
20		
21	***for the period 10/1/16-9/30/17 ONLY**	

1A (RISK MITIGATION) AR

	A	B	C	D	E	F
1	**New Indicator**					
2	dicator 1C (Outcome Leve	**Total # Labs Targeted** for viral family screening (pull from Indicator 1.2a)	Is this country **improving quality assurance and safety procedures?** *Based on labs ability to 1) test for 1 viral family, 2) test for all 5 PREDICT prioritized viral families, 3) test for additional viral families	Notes	*Calculation for Reporting*	**Numerator:** *Total # of ETD supported labs that improved QA and safety procedures in place in order to perform testing since the last reporting period.* **Denominator**: *Total # of ETD supported labs*
3						
4	AFRICA					
5	Cameroon	2	1 (50%)	5 viral families		
6	Cote d'Ivoire	2	1 (50%)	5 viral families		
7	DRC	1	1 (100%)	5 viral families		
8	Ethiopia	1	1 (100%)	5 viral families		
9	Gabon					
10	Ghana	2	0			
11	Guinea	1	0			
12	Kenya	3	1 (30%)	5 viral families		
13	Liberia	0	0			
14	RoC	0	0			
15	Rwanda	2	1 (50%)	5 viral families		
16	Senegal	0	0			
17	Sierra Leone	1	1 (100%)	1 viral family		
18	South Sudan	N/A				
19	Sudan	N/A				
20	Tanzania	2	2 (100%)	5 viral families		
21	Uganda	1	0			
22	ASIA					
23	Bangladesh	3	1 (30%)	5 viral families		
24	Cambodia	3	1 (30%)	Additional viral families		
25	China	4	2 (50%)	5 viral families		
26	India	1	0			
27	Indonesia	3	1 (30%)	5 viral families		
28	Lao PDR	2	1 (50%)	5 viral families		
29	Malaysia	5	3 (60%)	5 viral families		
30	Mongolia	1	1 (100%)	1 viral family		
31	Myanmar	2	0			
32	Nepal	2	1 (50%)	5 viral families		
33	Philippines					
34	Thailand	2	2 (100%)	5 viral families		
35	Vietnam	5	3 (60%)	5 viral families		
36	MIDDLE EAST					
37	Egypt	1	1 (100%)	3 viral families		
38	Jordan	1	1 (100%)	4 viral families		
39						
40	***for the period 10/1/16-9/30/17 ONLY**					

	A	B	C
1			
2	**Indicator 1D (Outcome Level)**	**List countries that participated in a HUMAN outbreak response (Pull from Indicator 1.2e)**	**List country that participated in an ANIMAL outbreak response (Pull from Indicator 1.2e)**
3	**AFRICA**		
4		DRC	DRC
5			Kenya
6			Rwanda
7			Tanzania
8			Sierra Leone
9			Cameroon
10	**ASIA**		
11		Bangladesh	Bangladesh
12		Nepal	
13	**MIDDLE EAST (Regional)**		
14			
15			
16			
17	***for the period 10/1/16-9/30/17 ONLY**		
18	*Calculation for Reporting*	*Numerator: # of ETD countries that have improved capacity in conducting outbreak investigations; Denominator: total # of ETD countries that reported to have outbreaks in the reporting period*	

	D
1	
2	**Does this country have improved capacity to conduct outbreak investigations? *Improved capacity as defined by improved reporting and coordination between government partners.**
3	
4	YES
5	YES
6	YES
7	YES
8	YES
9	YES
10	
11	YES
12	YES
13	
14	
15	
16	
17	
18	100%

	A	B
1	**Indicator 1.1a**	**Describe each risk factor/interface characterized** that is associated with spillover, amplification, and/or spread (include information on risk factor/interface type and contribution/association with spillover, amplification and/or spread, also **indicate animal/human vs animal/animal and country)**
2	**Indicate Country or Global**	**Risk factor/interface description**
3	China	Bats are host to a diverse array of viruses shed in feces (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y1)
4	China	Rodents are host to a diverse array of viruses shed in feces (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y1)
5	China	Contact with poultry is a risk factor for infection with Influenza A/H7N9 among children in 2013-2014 (host factor and high-risk interface linked to animal to human spillover, based on PREDICT data) (Y1)
6	China	Contact with poultry feces, chopping/butchering boards, and cage surfaces is a risk factor for infection with Influenza A/H7N9 (host/environmental risk factor and high-risk interface linked to animal to human spillover, based on PREDICT data) (Y1)
7	China	Small mammals are host to high prevalence of viruses in the hantavirus family (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y2)
8	Bangladesh	Co-infections influence viral occurrence (agent risk factor linked to potential for spillover; based on PREDICT data) (Y1)
9	Bangladesh	Primates in an urban setting are host to a diverse array of viruses that are shed in feces (host risk factor and high-risk interface linked to potential for animal to human spillover; based on PREDICT data) (Y1)
10	DRC	Human contact with primates in intensive conservation management situations facilitates disease transmisison between humans and primates (host/environmental risk factors and high-risk interface linked to anthropozoonotic spillover, based on PREDICT data) (Y1)
11	Malaysia	Human contact with primates in intensive management to mitigate human-macaque conflict is a potential risk factor for spillover of macacine herpesvirus 1 (B virus) (host/environmental risk factors and high-risk interfaces linked to animal to human spillover, based on PREDICT data) (Y1)
12	RoC	Butchering fruit bats is a significant risk factors for zoonotic spillover of henipavirus (host/environmental risk factors and high-risk interfaces linked to animal to human spillover, based on PREDICT data) (Y1)
13	Cameroon	Butchering fruit bats and living in areas undergoing deforestation are significant risk factors for zoonotic spillover of henipavirus (host/environmental risk factors and high-risk interfaces linked to animal to human spillover, based on PREDICT data) (Y1)
14	RoC	Primates in intensive management are host to a diverse array of viruses that are shed in feces (host risk factor linked to potential for spillover; based on PREDICT data) (Y1)
15	Philippines (Placed in Global)	A range of bat species are host to Reston ebolavirus and pose a risk for spillover to humans (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y1)
16	Thailand	A range of bat species are host to a diverse array of fecally shed coronaviruses that pose a risk for spillover to humans (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y1)

	C	D	E
1	**List Publication or reference if possible**	**Risk Factor or Risk Interf**	**Classify as: New characterization/in progress/complete**
2			Complete
3		Risk Factor	Complete
4		Risk Factor	Complete
5		both	Complete
6		both	Complete
7	X-Y Ge, W-H Yang, H. Pan, J-H Zhou, X. Han, G-J Zhu, J.S. Desmond, P. Daszak, Z-L Shi, Y-Z Zhang. 2016. Fugong virus, a novel hantavirus barbored by the small oriental vole (Eothenomys eleusis) in China. ˙ ˙Virology Journal 13:27. doi: 10.1186/s12985-016-0483-9	Risk Factor	Complete
8		Risk Factor	Complete
9		both	Complete
10		both	Complete
11	Lee, M.H., Rostal, M.K., Hughes, T., Sitam, F., Lee, C.Y., Japning, J., Harden, M.E., Griffiths, A., Basir, M., Wolfe, N.D. and Epstein, J.H., 2015. Macacine Herpesvirus 1 in Long-Tailed Macaques, Malaysia, 2009–2011. Emerging infectious diseases, 21(7), p.1107.	both	Complete
12	Weiss, S., Nowak, K., Fahr, J., Wibbelt, G., Mombouli, J.V., Parra, H.J., Wolfe, N.D., Schneider, B.S. and Leendertz, F., 2012. Henipavirus-related sequences in fruit bat bushmeat,.	both	Complete
13	Pernet O, Schneider BS, Beaty SM, LeBreton M, Yun TE, Park A, Zachariah TT, Bowden TA, Hitchens P, Ramirez CM, Daszak P. Evidence for henipavirus spillover into human populations in Africa. Nature communications. 2014 Nov 18;5.	both	Complete
14		Risk Factor	Complete
15	Jayme, S.I., Field, H.E., de Jong, C., Olival, K.J., Marsh, G., Tagtag, A.M., Hughes, T., Bucad, A.C., Barr, J., Azul, R.R. and Retes, L.M., 2015. Molecular evidence of Ebola Reston virus infection in Philippine bats. Virology journal, 12(1), p.107.	*Risk Factor*	Complete
16	Wacharapluesadee, S., Duengkae, P., Rodpan, A., Kaewpom, T., Maneeorn, P., Kanchanasaka, B., Yingsakmongkon, S., Sittidetboripat, N., Chareesaen, C., Khlangsap, N. and Pidthong, A., 2015. Diversity of coronavirus in bats from Eastern Thailand. Virology journal, 12(1), p.57.	Risk Factor	Complete

	A	B
17	Global	RNA viruses are more likely to spillover from animals to humans than DNA virus (agent risk factor linked to animal to human spillover, based on in-depth literature review of all known zoonotic viruses) (Y1)
18	Global	Viruses with high host plasticity (i.e. viruses able to infect hosts from a large number of taxonomic orders) are more likely to be transmissible human-to-human (agent risk factor linked to potential for amplification and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)
19	Global	Wild animals are the documented source of 91% of zoonotic viruses recognized to date (host risk factor linked to spillover, based on in-depth literature review of all known zoonotic viruses) (Y1)
20	Global	Zoonotic viruses reported in domesticated species had higher host plasticity (agent/host risk factors linked to animal to animal amplification and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)
21	Global	Vector-borne zoonotic viruses found in wildlife had higher host plasticity (agent risk factor linked to animal to animal and animal to human spillover and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)
22	Global	Human direct contact with wild animals kept as pets, maintained in sanctuaries or zoos, and sold at markets, had higher host plasticity (host/environmental risk factors and high-risk interface linked to animal to human spillover and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)
23	Global	Human direct contact with wild animals in and around human dwellings and in agricultural fields (mainly rodent hosts as reported to date) has facilitated spillover of zoonotic viruses (host/environmental risk factors and high-risk interface linked to animal to human spillover and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)
24	Global	Human direct contact with wildlife by hunting and consumption facilitates spillover of viruses with human-to-human transmissibility (agent/environmental risk factors and high-risk interface linked to animal to human spillover and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)
25	Global	Zoonotic viruses in the arenaviridae and filoviridae families are more likely to be human-to-human transmissible (agent/environmental risk factors linked to animal to human spillover and spread, based on in-depth literature review of all known zoonotic viruses) (Y1)
26	Global	First emergence of viral diseases was most often reported as vector-borne transmission, followed by airborne transmission and then direct contact (agent risk factor linked to potential spillover or spread, based on in-depth literature review of past emerging disease events) (Y1)
27	Global	First emergence of zoonotic diseases were most commonly associated with land use change, agricultural industry change, and international travel/commerce (environmental risk factor linked to potential animal to human spillover or spread, based on in-depth literature review of past emerging disease events) (Y1)
28	Rwanda AND Uganda (Placed in both countries)	Primates in intensive management are host to viruses that are shed in saliva (host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y2)

	C	D	E
17	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.	Risk Factor	Complete
18	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.	Risk Factor	Complete
19	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.	Risk Factor	Complete
20	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.	Risk Factor	Complete
21	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.	Risk Factor	Complete
22	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.	both	Complete
23	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.	both	Complete
24	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.	both	Complete
25	Johnson, C.K., Hitchens, P.L., Evans, T.S., Goldstein, T., Thomas, K., Clements, A., Joly, D.O., Wolfe, N.D., Daszak, P., Karesh, W.B. and Mazet, J.K., 2015. Spillover and pandemic properties of zoonotic viruses with high host plasticity. Scientific reports, 5, p.14830.	Risk Factor	Complete
26		Risk Factor	Complete
27		Risk Factor	Complete
28	Smiley Evans, T., Gilardi, K. V.K., Barry, P. A., Ssebide, B. J., Kinani, J. F., Nizeyimana, F., Noheri, J. B., Byarugaba, D. K., Mudakikwa, A., Cranfield, M. R., Mazet, J. A.K. and Johnson, C. K. (2016), Detection of viruses using discarded plants from wild mountain gorillas and golden monkeys. Am. J. Primatol., 78: 1222–1234. doi:10.1002/ajp.22576	Risk Factor	Complete

	A	B
29	Global	Human direct contact with high volumes of wildlife from high-risk taxa by hunting and consumption and poor biosafety increases the potential for zoonotic pathogen presence and transmission (agent/environmental risk factors linked to animal to human spillover and spread, based on PREDICT data) (Y2)
30	Global	Bats are host to a diversity of viruses in the paramyxo-, adeno-, herpes-, astro-, and coronavirus families (host/agent risk factors linked to potential animal to animal or animal to human spillover, based on in-depth literature review of all known zoonotic viruses) (Y2)
31	Global	Drivers of viral richness (host diversity and climactic variability) and transmission opportunity (human population density, bushmeat hunting, and livestock production) are associated with virus sharing between humans and bats (host/virus risk factor linked to animal to human spillover and spread; based on in-depth literature review of all known zoonotic bat viruses) (Y2)
32	Lao PDR, Cambodia	Bats are host to astroviruses shed in feces. Astrovirues are distributed widely and some have been identified as a cause of gastroenteritis in humans and other mammals. Wildlife species living close to human habitats could represent a risk for transmission of astroviruses to humans and domestic animals (agent/host risk factor linked to potential for spillover; based on PREDICT data) (Y3)
33	Lao PDR, Cambodia	Bats are host to a diverse array of coronaviruses (coronaviruses of animal origin were responsible for the Severe Acute Respiratory Syndrome [SARS] outbreak in 2003–2004 and the current epidemics of Middle Eastern Respiratory Syndrome [MERS] in the Arabian Peninsula and Korea). Findings are of importance for public health as Lao PDR and Cambodia have a high biodiversity of bats, often at high-risk interfaces in close proximity to people (agent/host risk factor linked to potential for animal to human spillover; based on PREDICT data) (Y3)
34	China	Bats are hosts to novel filoviruses in China. Findings suggest that these viruses have been circulating in the 2 bat species and that densely populated bat caves provide opportunity for cross-species infection with different viruses. Considering their feeding habitats, fruit bats are often in close contact with domestic animals and human populations (host risk factor linked to potential for animal to animal or animal to human spillover; based on PREDICT data) (Y3)
35	Global	The expanding international wildlife trade combined with a lack of surveillance for key animal diseases in most countries represents a potential pathway for transboundary disease movement (host/agent risk factors linked to potential animal to animal or animal to human spillover, based on in-depth literature review of reports of OIE-listed terrestrial animal diseases in wild animals) (Y3)
36	Global	The number of declared wildlife shipments into the USA has doubled since 2000, illustrating continually increasing demand, which reinforces the need to scale up capacity for border inspections, risk management protocols and disease surveillance (host/agent risk factors linked to potential animal to animal or animal to human spillover, based on comprehensive data US Fish and Wildlife Services database) (Y3)
37	Global	Bats are host to a diversity of viruses in the coronavirus (CoVs) family, and global diversity and distribution of CoVs in bats is non-random and is driven by variation in the biogeography of bats (host/agent risk factors linked to potential animal to animal or animal to human spillover; based on PREDICT data) (Y3)
38	Bangladesh	Nipah virus was found in Indian flying foxes outside of the area currently recognized to be experiencing recurring outbreaks of Nipah virus in humans, suggesting spillover is possible wherever humans interact with Indian flying foxes. Human activities such as date palm sap harvesting, concurrent with viral circulation in local bat populations, are major drivers of human outbreaks in Bangladesh (host/agent risk factor and high-risk interface linked to potential animal to animal or animal to human spillover; based on PREDICT data) (Y3)

	C	D	E
29	Greatorex, Z. F., Olson, S. H., Singhalath, S., Silithammavong, S., Khammavong, K., Fine, A. E., ... Mazet, J. A. K. (2016). Wildlife trade and human health in Lao PDR: An assessment of the zoonotic disease risk in markets. PLoS One, 11(3), [e0150666]. DOI: 10.1371/journal.pone.0150666	both	Complete
30	Young, C. C., & Olival, K. J. (2016). Optimizing viral discovery in bats. PloS one, 11(2), e0149237.	Risk Factor	Complete
31	Brierley, L., Vonhof, M. J., Olival, K. J., Daszak, P., & Jones, K. E. (2016). Quantifying global drivers of zoonotic bat viruses: a process-based perspective. The American Naturalist, 187(2), E53-E64.	Risk Factor	Complete
32	A. Lacroix, V. Duong, V. Hul, S. San, H. Davun, K. Omaliss, S. Chea, A. Hassanin, W. Theppangna, S. Silithammavong, K. Khammavong, S. Singhalath, A. Afelt, Z. Greatorex, A.E. Fine, T. Goldstein, S. Olson, D.O. Joly, L. Keatts, P. Dussart, R. Frutos, P. Buchy. 2017. Diversity of bat astroviruses in Lao PDR and Cambodia. Infection, Genetics and Evolution, 47: 41-50. doi: 10.1016/j.meegid.2016.11.013	Risk factor	Complete
33	Lacroix, A., Duong, V., Hul, V., San, S., Davun, H., Omaliss, K., Chea, S., Hassanin, A., Theppangna, W., Silithammavong, S. and Khammavong, K. 2017. Genetic diversity of coronaviruses in bats in Lao PDR and Cambodia. Infection, Genetics and Evolution, 48, pp.10-18.	Risk factor	Complete
34	Yang, X.L., Zhang, Y.Z., Jiang, R.D., Guo, H., Zhang, W., Li, B., Wang, N., Wang, L., Waruhiu, C., Zhou, J.H. and Li, S.Y., 2017. Genetically Diverse Filoviruses in Rousettus and Eonycteris spp. Bats, China, 2009 and 2015. Emerging Infectious Diseases, 23(3), p.482.	Risk factor	Complete
35	Smith, K.M., Machalaba, C.M., Jones, H., Cáceres, P., Popovic, M., Olival, K.J., Ben Jebara, K. and Karesh, W.B., 2017. Wildlife hosts for OIE-Listed diseases: considerations regarding global wildlife trade and host–pathogen relationships. Veterinary Medicine and Science.	Risk factor	Complete
36	Smith, K.M., Zambrana-Torrelio, C., White, A., Asmussen, M., Machalaba, C., Kennedy, S., Lopez, K., Wolf, T.M., Daszak, P., Travis, D.A. and Karesh, W.B., 2017. Summarizing US Wildlife Trade with an Eye Toward Assessing the Risk of Infectious Disease Introduction. EcoHealth, 14(1), pp.29-39.	Risk factor	Complete
37	Anthony, S.J., Johnson, C.K., Greig, D.J., Kramer, S., Wells, H., Hicks, A., Joly, D., Wolfe, N., Daszak, P., Karesh, W., Lipkin, W.I., Morse, S.S., PREDICT Consortium, Mazet, J.A.K., Goldstein, T. (2017). Global patterns in coronavirus diversity. Virus Evol 3 (1): vex012. doi: 10.1093/ve/vex012.	Risk factor	Complete
38	Epstein, J.H., Anthony, S.J., Islam, A., Kilpatrick, A.M., Khan, S.A., Ross, N., Smith, I., Barr, J., Zambrana-Torrelio, C., Tao, Y. and Quan, P.L., 2016. Nipah virus ecology and infection dynamics in its bat reservoir, Pteropus medius, in Bangladesh. International Journal of Infectious Diseases, 53, pp.20-21.	both	Complete

	A	B
39	Egypt	High MERS-CoV seroprevalence and the presence of active viral infection circulating in imported and resident camels are indications that MERS-CoV may have become ubiquitous in Egypt.Transport stress and close vicinity of imported camels during transport may precipitate disease dissemination, particularly in animals with latent infection and carrier animals (host/agent risk factor and high-risk interface linked to potential animal to human spillover) (Y3)
40	Uganda/Global	MERS-related CoVs are highly associated with bats and are geographically widespread (host risk factor linked to potential for animal to human spillover) (Y3)
41	Global	Risk of emerging infectious zoonotic disease is elevated in forested tropical regions experiencing land-use changes, especially where wildlife biodiversity (mammal species richness) is high (host/environmental risk factor and high-risk interface linked to animal to human spillover, based on global data) (Y3)
42	Global	Cave-roosting bat species exhibit a greater likelihood of viral sharing within caves (host risk factor linked to potential for animal to animal or animal to human spillover, based on global data and PREDICT 1 data) (Y3)
43	Global	The proportion of known zoonotic viruses per species is predicted by phylogenetic relatedness to humans, host taxonomy (bats harbor a significantly higher proportion of zoonotic viruses than all other mammalian orders), and human population within a species range --which may reflect human–wildlife contact (host risk interface linked to potential for animal to human spillover, based on global data) (Y3)
44	*Cumulative - indicate year	

	C	D	E
39	Ali, M., El-Shesheny, R., Kandeil, A., Shehata, M., Elsokary, B., Gomaa, M., … Makonnen, Y. J. (2017). Cross-sectional surveillance of Middle East respiratory syndrome coronavirus (MERS-CoV) in dromedary camels and other mammals in Egypt, August 2015 to January 2016. Eurosurveillance, 22(11), 30487. http://doi.org/10.2807/1560-7917.ES.2017.22.11.30487	both	Complete
40	Anthony, S. J., Gilardi, K., Menachery, V. D., Goldstein, T., Ssebide, B., Mbabazi, R., ... & Petrosov, A. (2017). Further Evidence for Bats as the Evolutionary Source of Middle East Respiratory Syndrome Coronavirus. mBio, 8(2), e00373-17.	Risk Factor	Complete
41	Allen, T., Murray, K. A., Zambrana-Torrelio, C., Morse, S. S., Rondinini, C., Di Marco, M., ... & Daszak, P. (2017). Global hotspots and correlates of emerging zoonotic diseases. Nature Communications, 8(1), 1124.	both	Complete
42	Willoughby, A. R., K. L. Phelps, PREDICT Consortium & K. J. Olival. A Comparative Analysis of Viral Richness and Viral Sharing in Cave-Roosting Bats. (2017). Diversity, 9, 35;	risk factor	Complete
43	Olival, K. J., Hosseini, P. R., Zambrana-Torrelio, C., Ross, N., Bogich, T. L., & Daszak, P. (2017). Host and viral traits predict zoonotic spillover from mammals. Nature, 546(7660), 646-650.	risk interface	Complete
44			

	A	B	C	D	E
1	**Indicator 1.1b**	**# viral** pathway models or maps developed, refined, analyzed and/or described	**# bacterial** pathway models or maps developed, refined, analyzed and/or described**	**# disease risk** pathway models or maps developed, refined, analyzed and/or described**	**Provide a list and brief narrative description of each viral, bacterial or risk pathway model or map developed, refined, analzyed and/or described.** If feasible, the maps or models should be attached.
2	**WEST AFRICA (Regional)**			2	4. Waterbird diversity maps for the West African region to assess disease emergence risk from birds 9. Site optimization map for mammalian sampling in Afrotropical west region
3	Burkina Faso (ASL2050)	1		1	49. Risk map of avian influenza outbreak 50. Spatial map of local EID drivers
4	Cameroon			1	12. Site optimization map for mammalian sampling
5	Cote d'Ivoire				
6	Gabon				
7	Ghana	1			53. Habitat suitability map for Eidolon helvum
8	Guinea				
9	Liberia				
10	Nigeria (ASL2050)				
11	Senegal				
12	Sierra Leone				
13	T & CENTRAL AFRICA (Regional)			2	5. Waterbird diversity maps for the Central and East African regions to assess disease emergence risk from birds 8. Site optimization map for mammalian sampling in Afrotropical east region
14	DRC				
15	Ethiopia (ASL2050)			1	20. Site optimization map for mammalian sampling
16	Kenya (ASL2050)			1	22. Site optimization map for mammalian sampling
17	RoC				
18	Rwanda				
19	South Sudan				
20	Sudan				
21	Tanzania				
22	Uganda (ASL2050)			1	23. Site optimization map for mammalian sampling
23	**ASIA (Regional)**			10	6. Waterbird diversity maps for the Asian region to assess disease emergence risk from birds. 10-18. Site optimization map for mammalian sampling in 9 Asian zoogeographicalregions
24	Bangladesh			1	24. Site optimization map for mammalian sampling
25	Cambodia				
26	China	3		1	30. Site optimization map for mammalian sampling. 45. Host-virus phylogenetic mapping for Alpha- (a) and Beta- (b) Coronaviruses 51. SADS-CoV dynamic outbreak model in swine 52. Ancestral reconstructions of coronavirus host taxa and geography.
27	India				
28	Indonesia			1	25. Site optimization map for mammalian sampling
29	Lao PDR				
30	Malaysia	1		1	26. Site optimization map for mammalian sampling 54. Assesment of host species diversity across a land-use gradient
31	Mongolia				
32	Myanmar				

	A	B	C	D	E
33	Nepal				1	31. Site optimization map for mammalian sampling
34	Philippines				1	29. Site optimization map for mammalian sampling
35	Thailand				1	27. Site optimization map for mammalian sampling
36	Vietnam				1	28. Site optimization map for mammalian sampling
37	**MIDDLE EAST (Regional)**					
38	Egypt (ASL2050)				1	21. Site optimization map for mammalian sampling
39	Jordan					
40	**GLOBAL**					
41		13	1	11		1. ASL 2050 Simulating avian influenza outbreaks with 1000x iterated dynamic models. 2. ASL 2050 Hotspot analysis with geographically weighted prinicipal component model to identify regional factors contributing to disease emergence risk. 3. Global Anatidae (waterbird) diversity map to assess disease emergence risk from birds, for a) non-breeding areas and b) breeding areas. 7. a) Global map of optimal targeting sites for viral discovery from mammal and water bird populations. b) Minimal, efficient selection of 108 viral discovery sites 32. PREDICT1 viral accumulation curves to allow in-country staff to explore viral discovery data, and compare the efficacy of different sampling protocols. 33. Preliminary model of avian viral richness and bird life-history tratis, data from literature for 929 avian species and 142 viruses. 34. Flavivirus host (a) and vector (b) bipartite network analysis to assess risk of flaviviruses from wildlife. 35. Flavivirus analysis of phylogenetic clustering of animal and human risk traits, showing zoonotic (a) and clinical infection (b) traits. 36. Analysis of amino acid selection for 46 Flaviviruses with available full genomes; linked to human infection status via a multivariate analysis 37. Maps of flavivirus geographic distribution in observed wild hosts (a), observed human infections (b), and predicted sylvatic cycles for yellow fever virus and zika virus (c). 38. Refinement of host-virus zoonoses models using a zoogeographic cross-validation to identify spatial bias in model predictions. 39. Expanded global model to predict viral richness per mammalian host species to all terrestrial mammals (n=5304); results shown at species level (a) and aggregated by order (b). 40. a) Expert survey for viral ranking model b) Ranking assessment based on weighted expertise 41. Phylogenetic host breadth of PREDICT-1 viruses. 42. Developed a conceptual model to map out the impacts and opportunities of a One Health Framework. 43. Power analysis of interfaces to determine the optimal sample sizes to discover new viruses. 44. Developed software for rapid spatial mapping. 46. GVP Projected total costs of surveillance to discover the global virome. 47. GVP Projected costs of EID damages, 48. Understanding risk of viral sharing and spillover at animal-human interfaces. 55-56. Theoretical cost and sector analysis of Rabies and Nipah viruses 57. Bayesian model of seasonality in viral shedding in bats 58. Bat roosting behavior database and viral sharing model developed 59. Platform and methodology
42	***for the period 10/1/16-9/30/17 ONLY**					*Maps and models attached in separate document

	A	B
1	**Indicator 1.1c**	**Provide a list and brief description of each intervention point that has been prioritized** to inform the development of risk mitigation approaches (information should describe the intervention point's characteristics, an explananation on how it was identified and why it was prioritized; include country information)
2	**Indicate Country or Global**	
3	Global/West Africa	Prioritized strategic planning and behavior communication to safely and humanely live with bats in and around human dwellings.
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38	***for the period 10/1/16-9/30/17 ONLY**	

	A	B	C	D	E	F	G
1	**Indicator 1.2a**	**YEAR 3 DATA (10/01/16 - 09/30/17)**					
2		**Total # Labs Targeted for PREDICT viral family testing**	**# of labs in the country obtaining training or preparing to test for the 4 priority viral family protocols**	**# of labs in the country with the ability to perform testing for the 4 priority viral family PREDICT protocols**	**Proportion of labs that can do viral family testing**	**# of tests performed (# of tests performed by lab, for each virus, viral family, prioritized pathogen and/or AMR/antimicrobial quality test**	Notes
3	**AFRICA**					**These numberse are broken out by country**	
4	Cameroon	2	1	1	50%	Total Number tests: 17383　　　Tests by Viral family:　　Corona - 5736 Paramyxo - 2868 Filo - 2867 Flavi - 3 Influenza - 5731 Other - 178	
5	Cote d'Ivoire	2	2	1	50%	Total Number tests: 4030 Tests by Viral family: Corona - 1055 Paramyxo - 595 Filo - 595 Flavi - 595 Influenza - 1190	
6	DRC	1	0	1	100%	Total Number tests: 9367　　　Tests by Viral family:　　Corona - 2762 Paramyxo - 1258 Filo - 1277 Flavi - 1277 Influenza - 2793	
7	Ethiopia	3	0	1	33%	Total Number tests: 114 Tests by Viral family: Corona - 19 Paramyxo - 19 Filo - 19 Flavi - 19 Influenza - 38	
8	Gabon						
9	Ghana	2	2	0	0%	N/A	
10	Guinea	1	1	0	0%	N/A	

	A	B	C	D	E	F	G
11	Kenya	3	2	0	0%	Total Number tests: 301 Tests by Viral family: Corona - 301	One Lab can perform 1 viral family
12	Liberia	1	0	0	0%	Total Number tests: 522 Tests by Viral family: Filo - 174 Ebolavirus - 348	Testing done at CII in USA
13	RoC	0	0	0	0%	Total Number tests: 3223 Tests by Viral family: Corona - 903 Paramyxo - 389 Filo - 389 Flavi - 389 Influenza - 1153	Testing done at INRB in DRC
14	Rwanda	2	1	1	50%	Total Number tests: 0	
15	Senegal	2	2	0	0%	N/A	
16	Sierra Leone	1	1	0	0%	Total Number tests: 5084 Tests by Viral family: Filo - 1291 Ebolavirus - 3813	Current results from UCD in USA; Plan is for lab performing testing for 1 viral family
17	South Sudan						
18	Sudan						
19	Tanzania	2	0	2	100%	Total Number tests: 3863 Tests by Viral family: Corona - 1098 Paramyxo - 569 Filo - 549 Flavi - 549 Influenza - 1098	
20	Uganda	1	1	0	0%	Total Number tests: 0	
21	**ASIA**						
22	Bangladesh	3	1	1	33%	Total Number tests: 10495 Tests by Viral family: Corona - 1335 Paramyxo - 1335 Filo - 1335 Flavi - 1498 Influenza - 1529 Other - 3463	

	A	B	C	D	E	F	G
23	Cambodia	3	2	1	33%	Total Number tests: 7160 Tests by Viral family: Corona - 1112 Paramyxo - 0 Filo - 890 Flavi - 949 Influenza - 115 Alpha - 181 Hanta - 1379 Orthobunya - 765 Rhabdo - 1769	
24	China	4	2	2	50%	Total Number tests: 4424 Tests by Viral family: Corona - 919 Paramyxo - 701 Filo - 701 Flavi - 701 Influenza - 919 Hanta - 483	
25	India	1	1	0	0%	N/A	
26	Indonesia	3	2	1	33%	Total Number tests: 9366 Tests by Viral family: Corona - 811 Paramyxo - 2498 Filo - 811 Flavi - 1620 Influenza - 1939	
27	Lao PDR	2	1	1	50%	Total Number tests: 4631 Tests by Viral family: Corona - 1168 Paramyxo - 834 Filo - 584 Flavi - 530 Influenza - 1515	
28	Malaysia	5	2	3	60%	Total Number tests: 12308 Tests by Viral family: Corona - 3367 Paramyxo - 1737 Filo - 1633 Flavi - 1725 Influenza - 2722 Other - 1124	

	A	B	C	D	E	F	G
29	Mongolia	1	1	0	0%	Total Number tests: 2600 Tests by Viral family: Influenza - 2600	Plan is only to perform influenza and the lab is doing so
30	Myanmar	2	2	0	0%	Total Number tests: 1085 Tests by Viral family: Corona - 310 Paramyxo - 155 Filo - 155 Flavi - 155 Influenza - 310	Testing done at UCD in USA
31	Nepal	2	1	1	50%	Total Number tests: 6830 Tests by Viral family: Corona - 1966 Paramyxo - 983 Filo - 983 Flavi - 932 Influenza - 1966	
32	Philippines						
33	Thailand	2	0	2	100%	Total Number tests: 10052 Tests by Viral family: Corona - 1957 Paramyxo - 1904 Filo - 1854 Flavi - 1797 Influenza - 1936 Alpha - 33 Arena - 33 Hanta - 404 Orthobunya - 33 Rhabdo - 33 Other - 68	
34	Vietnam	5	2	3	60%	Total Number tests: 2158 Tests by Viral family: Corona - 630 Paramyxo - 315 Filo - 315 Flavi - 241 Influenza - 630 Other - 27	
35	**MIDDLE EAST**						

	A	B	C	D	E	F	G
36	Egypt	1	1	0	0%	Total Number tests: 3006 Tests by Viral family: Corona - 1202 Paramyxo - 602 Filo - 1202	Lab is currently testing for 3 viral families
37	Jordan	1	0	1	100%	Total Number tests: 2500 Tests by Viral family: Corona - 1000 Paramyxo - 500 Filo - 500 Influenza - 500	Lab is currently testing for 4 viral families
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39							
40		*for the period 10/1/16-9/30/17 ONLY					

	A	B	C	D	E	F	G
1		These fields are not required for M&E reporting					
2		Animal		Human			
3	**Indicator 1.2e**	# days from sample collection to **PREDICT testing** result (confirmation)	# days from **PREDICT testing** result (confirmation) to national-level report	# days from sample collection to **PREDICT testing** result (confirmation)	# days from **PREDICT testing** result (confirmation) to national-level report	# days from sample collection to non-**PREDICT** testing result (confirmation)	# of days from government request for PREDICT assistance to PREDICT activity (assistance)
4	AFRICA	ANIMAL OUTBREAKS	HUMAN OUTBREAKS				
5	DRC	N/A	N/A	N/A	N/A	N/A	N/A (see commer
6	Kenya	N/A	N/A	N/A	N/A	N/A	N/A (see commer

1.2e (OUTBREAKS) AR

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3	**QUALITATIVE INDICATOR: List/Description of outbreak support** (include country, disease, human or animal, month and year based on sample collection date, important dates, type of support provided, any after action reviews) - *qualitative context for numbers provided only*	*This indicator is not Qualitative only so we do not report on cells B-G*
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5	DRC Tshuapa province suspected avian influenza February 2017. On 02 February, a die-off alert in poultry (chicken and ducks) was received from the Tshuapa Province: reports of 1,727 deaths in poultry in the sector of Djera; and 800 bird deaths from the city of Boende. An investigation team composed of governmental provincial staff was sent to investigate, however by the time the field team arrived there were no bird carcasses to sample as they had all been consumed by the local population. No official request to participate was received, however the PREDICT team was asked to prepare PPE supplies and kits for government field teams if needed. The PREDICT Country Coordinator participated in government taskforce meetings related to this suspected health event and assisted with multi-partner coordination when needed. On 09 Febreuary 2017, in the eastern part of the country, representatives from the Mountain Gorilla Veterinary Project (MGVP) team (the lead for PREDICT in eastern DRC) attended a provincial coordination meeting led by the administrator of the Provincial veterinary laboratory in Goma, with representatives from the provincial departments of Inspection of Agriculture, Fishery and Livestock, the Provincial health office, the Provincial coordination committee of environment, and the ICCN. During this meeting they prepared a response plan for avian influenza, including training of local staff, identification of at risk sites (avian farms, parks, reserves, points of entry etc.), the organization of simulation exercises, and the organization of monitoring of wild birds with sample collection if a health event occurs.	
6	Kenya Avian influenza preparedness activities - January 2017: On 17 January 2017, reports of suspected aviana influenza activity in neighboring Uganda were received by the GoK. On 18 January 2017, a multi-partner meeting was held to address avian influenza preparedness. At this meeting were: PREDICT, FAO/ECTAD, DVS, KWS, KEMRI, USAID P&R, P2, UoN, CDC, ILRI, ZDU, MoH, KVA (Kenya Veterinary Association) and all participated to form various task force including Epidemiology and Surveillance, Laboratory and Research, Infection Prevention and Control, Case Management, Coordination and Resources Mobilization, and Information, Education and Communication. PREDICT shared protocols that may be helpful for these efforts in the areas of Basic Laboratory Safety, Biosafety and Personal Protective Equipment (PPE) Use, Implementing Cold Chain for Safe Sample Transport and Storage and Avian Sampling Methods and agreed to assist with sample testing if requested by GoKenya and approved by USAID-DC.	

	A	B	C	D	E	F	G
7	Rwanda	N/A (see comments)	N/A	N/A	N/A	N/A	1
8	Tanzania	N/A (see comments)					N/A (see commer
9	Sierra Leone					18	1
10	Cameroon	9	pending			N/A	3

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7	RWANDA Avian Influenza - January 2017: PREDICT was requested to join a government taskforce to investigate suspected bird die-off. On January 18, the RAB Director of Veterinary Services met with PREDICT and the Rwanda One Health Steering Committee (ROHSC) to organize a field investigation of the situation. PREDICT prepared and set off the same day, accompanying personnel from RAB, the Rwanda Biomedical Center (RBC, the Ministry of Health's implementing arm) and Preparedness & Response (P&R). During the field investigation, the team had opportunities to continue to sensitize the public about AI on local and national radio stations broadcasting out of Rusizi and Rubavu Districts. Despite reports from community members about dead wild birds, the field team did not locate any bird carcasses, and were informed by community members that just 5 carcasses of non-aquatic species had been observed in separate locations.PREDICT team deployed with animal sampling equipment and PPE supplies, but no dead birds were found. In summary, the PREDICT team supplied technical expertise on animal sampling and supplies to the joint government taskforce, and answered questions from the public regarding the role of wild birds in the transmission of avian influenza. On January 26-27 the PREDICT team participated and provided technical assistance in a national workshop to update the National Contigency Plan for Avian Influenza.	
8	Tanzania Avian Influenza Preparedness - February 2017: The PREDICT team was requested by the Government of Tanzania to be available to provide technical information and animal sampling assistance in the event of reported bird die-offs in the country. This preparedness activity was in response to avian influenza reports in neighboring Uganda. The GoTZ is currently in the process of determining what exact assistance may be required from the PREDICT teams if bird die-offs occur in the country.	
9	On 29 March 2017, a single suspect case of Monkeypox in the Pujehun district of Sierra Leone was detected and subsequently laboratory confirmed . Patient presented at Makorma Community Health Post (Pujehun District?) for care on March 22nd 2017. This was one week post-onset of symptoms which included: fever, body pains, malaise, dysphagia, and enlarged cervical lymph nodes. Patient was presumptively treated for malaria and sore throat as an out-patient at Makorma Health Post. The first official acknowledgement of the outbreak was on Tuesday, April 18th, 2017 by the Ministry of Health National Public Health Emergency Management Operations Center who then informed WHO country office. District response was initiated during the suspect case investigation on March 25th by the Pujehun district health Management Team with support from the WHO field office staff in Pujehun. Following receipt of the lab confirmation results of the MPX case from Pujehun district on the previous day (Monday April 17th) and following discussions at the Epidemic Preparedness and Rapid Response Group (EPRRG) at the MOHS Emergency Response Center on Wednesday April 18th, the MOHS agreed to send in a One Health investigation team to further asses any prevailing risk in humans and animals. The patient also had travel history to Bo district. Bo was the site of a separate Monkeypox outbreak in 2014. Following the laboratory confirmation, the Ministry of Health and Sanitation (MoHS) decided to conduct an investigation visit to Pujehun and Bo districts. Initial Response was initiated by Ministry of Health with support from WHO, CDC and E-health Africa. The MOHS requested PREDICT to assist in the investigation of sick animals concurrently with the human investigation team.	
10	On May 18, 2017 die-off of bat colonies (Eidolon helvum) in Maroua, Far North region, Cameroon was reported. PREDICT participated in inital government meetings the next day and shared information on safe collection of samples from bats. On 24 May 2017 the GoC requested that PREDICT test bat samples for possible virus causes of the dieoff. Laboratory results are pending final government release.	

	A	B	C	D	E	F	G
11	DRC			1	1	1	1
12	Cameroon	2	2				2
13	DRC			1	1	6	1
14							
15	**ASIA**						

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11	On 8 May 2017, an alert of 9 suspected cases of Human Viral Hemorrhagic Fever and 2 deaths in the Likati Health Zone, Bas-Uele Province was received from the Provincial Health Officer. Symptoms were fever, bloody vomiting, diarrhea, and bleeding from the nose. On 10 May the laboratory at INRB confirmed EBOV in a subset of five patient specimens. PREDICT participated in GoDRC taskforce meetings starting on 12 May, and was requested by the Director of INRB to utilize PREDICT protocol testing as a second assay to confirm the detection of EBOV. Results of PREDICT testing were consistent with more specific real-time PCR assays run by INRB. PREDICT was requested to provide laboratory reagents to support INRB for further initial testing, and continued to participate in National task force meetings and provide tehcnical assistance until the cessation of the outbreak.	
12	On 14 September 2017: gorilla carcasses were found in Mambele (along the border with the Republic of Congo) by the World Wildlife Fund (WWF). The GoC requested that PREDICT provide laboratory testing of the gorilla carcass for priority virus familes. All specimens were negative in PREDICT testing. PREDICT continued to provide technical assistance to the government and gave a scientific presentation to key stakeholders regarding possible causes of the dieoff including viral diseases and anthrax.	
13	On 9 and 11 September 2017, two cases of suspected VHF (one fatal) presented in the Likati Health Zone, Bas-Uele province with signs of vomiting, diarrhea, blood in urine and stool, hemorrhagic conjunctivitis and headache, without fever. Specimens were collected and initial rapid diagnostic testing (RDT) of one patient at the rural health clinic suggested EBOV infection. Followup specific EBOV testing at INRB ruled-out EBOV. PREDICT was requested by the Director of INRB to conduct PREDICT protocol testing for filoviruses as a secondary assay to confirm the EBOV ruleout. PREDICT testing was negative for filoviruses. The INRB director also requested additional priority virus family testing and for other likely virus families (bunyavirus/arenavirus). All specimens were negative for virus detection.	
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16	Bangladesh	pending	pending	N/A	N/A	10 (see com	1

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16	Bangladesh Rajashahi, Crow-dieoff January 2017: On January 12, 2017, approximately 10 sick or dying crows found on the grounds of the hospital and informed the Director of RMCH. The Director of Institute of Epidemiology, Disease Control and Research (IEDCR) then reached out to the PREDICT-2 country coordinator (Dr. Ariful Islam) on the same day. PREDICT was engaged at the start of outbreak response, providing technical guidance and then conducting sample collection and laboratory testing at the PREDICT collaborating laboratory iccdr,b and in conjunction with the Ministry of Fisheries and Livestock federal reference lab, which continued through the end of the response. PREDICT collected wild bird and feral dog samples, environmental crow fecal samples from under roosts, samples from poultry offal at local markets and environmental poultry fecal samples from some poultry farms; conducted qualitative interviews; transported personnel; transported samples from the field to the PREDICT lab at icddr,b, and to the DLS federal reference lab at the Bangladesh Livestock Research Institute (BLRI). PREDICT sampled 57 sick/dead crows, 123 live bird market (LBM) environmental fecal samples, 23 crow roost fecal samples, 65 environmental fecal samples from 12 poultry farms, 141 environmental samples from 7 live bird markets, and 8 feral dogs in and around the LBMs in Rajshahi. These samples were sent to the PREDICT lab (icddr,b) on January 18th , 2017. These samples were screened by real time PCR for the M gene, H5, H7, and H9. A duplicate set of samples from 23 crows was also sent to BLRI for testing for H type and additional testing for N1, N2, N6, and N8. Iccdr,b was involved as a PREDICT lab partner to support outbreak sample testing. The Bangladesh Livestock Research Institute (BLRI), served as the official national reference lab (under Ministry of Fisheries and Livestock) and performed confirmatory testing for a subset of samples screened at icddr,b. BLRI reports the official laboratory results on behalf of the Government of Bangladesh. The PREDICT Country Coordinator presented the confirmed H5N1 (from Rajshahi) and H5 results (from Dhaka), using BLRI's reference influenza specific assays, from the crow samples that were collected by PREDICT. The Country Coordinator was presenting on behalf of the One Health investigation team and with the consent of the GoB at a GHSA coordination meeting held today. The PREDICT Country coordinator also gave an update on the One Health response and involvement of multiple government partners in the Rajshahi and Dhaka crow die-offs. Attendees at the meeting included: USAID, US CDC, WHO, FAO, DLS, the Forest Department, the Ministry of Health and Family Welfare, IEDCR, icddr,b, PREDICT2, P&R and the One Health Secretariat.	

	A	B	C	D	E	F	G
17	Bangladesh	pending	pending			26 (see com	1
18	Bangladesh	pending	pending			29 (see com	1
19	Nepal	N/A	N/A	N/A	N/A	8	1
20							
21							

	H	I
17	Bangladesh Dhaka - Crow-Dieoff - Janaury 2017: Reports of 4 sick or dying crows on the premises of a telecommunications company where PREDICT was also conducting bat sampling. The Director of IEDCR then informally and verbally requested the PREDICT-2 team to extend their Rajshahi outbreak response efforts to also investigate the crow die-off in Dhaka. When asked, local residents stated that the crow die-off had started in the beginning of January. IEDCR expressed interest in understanding the geographical distribution, cause and extent of this outbreak and find any epidemiological links between these two outbreak sites (Dhaka and Rajshahi). The Director of IEDCR requested PREDICT's support in this outbreak on January 14, 2017, as part of the official request for the ongoing Rajshahi outbreak. The director of IEDCR officially acknowledged the outbreak on January 15, 2017. During field investigation activities, PREDICT team has been continuing its field investigations and has sampled 174 crows and 3 bats and collected 139 live bird market environmental samples, 63 poultry offal samples, 6 feral dogs and captured 13 wild birds that are co-roosting with crows (species ID pending). All specimens were submitted to icddr,b lab and a subset of samples were submitted to BLRI for confirmatory testing using non-PREDICT assays. On April 11, 2017, the PREDICT country coordinator had a meeting to discuss the preliminary results of the crow testing with the Department of Livestock Services (DLS), and an official report was submitted that day from the DLS to the OIE the detection of H5 influenza virus in crow samples collected by the PREDICT team. Laboratory confirmation came from BLRI using influenza specific assays. All locations sampled (Mohakhali Wireless, Ramna Park, Sohrawardi Uddan, Dhamrai and Dhaka University) had crows that were confirmed as H5 influenza positive. They also reported H5 in crows from Hemayetpur, Gulshan, Shahbag, and Savar. A link to the official OIE report (dated today April, 11, 2017) can be found here: https://www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=23531.	
18	Bangladesh - Human Encephalitis - March 2017: On 2nd of March, the PREDICT team was notified that there were three human encephalitis cases that were suspected to be Nipah virus by the Director of the Institute of Epidemiology, Disease Control & Research (IEDCR) in the Pabna and Faridupur areas (each approximately 100km apart). Icddr,b was involved as a PREDICT lab partner to support preliminary testing from animal samples. PREDICT assisted with recommendations for the animal investigation component and sent a team to collect samples from bats in both Faridpur and Pabna areas. The PREDICT team in Faridpur included one veterinarian, and two field technicians. The PREDICT team in Pabna included three field technicians and one scientist. These teams collected 115 urine roost specimens, 121 non-invasive fecal specimens, and 32 specimens from chewed fruits (sapodilla fruits) for testing. All animal specimens were submitted to the PREDICT iccdr/b laboratory and initially testing using a Nipah specific quantitative RTPCR assay, based on the published *Lo et. al., Emerging Infectious Disease (2012)* protocol, which was completed on April 6, 2017. These test results were shared with the government and taskforce (April 6, 2017), and are pending government approval for further dissemination.	
19	NEPAL Avian Influenza - March 2017 - First case reported in Santitole, Khanar, Itahari-12, and Sunsari. The outbreak was in two different commercial poultry sheds within Sahntitol, Khanar area and affected approximately 6200 birds. On MArch 7th 2017, The Central Veterinary LAboratory requested technical assistance for reagents to conduct N sub-type testing to confirm the identity of the avian influenza virus affecting poultry in the region. The PREDICT laboratory provided the N8 subtyping PCR primers to Central Veterinary Lab (CVL) for influenza N8 sub typing within 16 hours of the request from CVL. During the initiation of the oubtbreak, the CVL id not have reagents for N8 subtype testing. On 10 March 2017, an official report to OIE was made identifying the etiologic agent as an H5N8 influenza virus.	
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23	*for the period 10/1/16-09/30/17 ONLY						

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2	**Indicator 2B (Outcome Level)**	**List/Description of application of OH approaches in the workforce (include country, OHUN if relevant, and description of the application of the OH approach)**
3	AFRICA	
4	Guinea	Field training for veterinarians, ecologists, and public health workers including govt staff: PREDICT Guinea led trainings in One Health at the national, regional and community level to strengthen capacity for surveillance of emerging diseases, including those identified as national zoonotic priorities by the Guinean government through the JEE. Trainings included over 25 individuals from national, prefectoral, and district government partners from the Ministry of Health, Livestock and Animal Resources, Environment Water and Forestry, and Research and Higher Education.
5	Tanzania	PREDICT has continued to strengthen and build local in-country capacity to tackle zoonotic diseases. Through the field-based training designed to establish One Health best practices, PREDICT continued in-service training for local and government staffs, including District veterinary officers and community-based stakeholders to conduct sampling for zoonotic disease surveillance enhancing core One Health professional skills required for conducting field investigations (outreach on zoonotic disease risks, biosafety and PPE, safe sample collection from wildlife and people, cold chain, safe sample storage and transport, behavioral risk investigations, and data management). To date, 65 individuals have received in-service training in One Health skills in Tanzania including 12 government personnel and 18 students. Additionally PREDICT conducted trainings for 12 Ujiji Health Center staffs in the lake zone region in ethics, safe sample collection, cold chain, and data management in preparation for syndromic surveillance targeting patients with undiagnosed fevers of likely viral origin that may be associated with priority zoonotic diseases.
6	Ghana	Participants from the Ghana Health Service, the Ghana Armed Forces 37 Military Hospital, Veterinary Services Directorate of the Ministry of Food and Agriculture, and Wildlife Division of the Forestry Commission participated in a workshop organized by the Noguchi Memorial Institute for Medical Research on surveillance of zoonotic viruses. The meetings are held every 2-3 months as a means to share information, coordinate on surveillance and laboratory activities, and strengthen One Health networks. This network has provided a platform for One Health training for personnel working in all three sectors as well as students and pre-service veterinarians in Ghana. For example, over the past year, two pre-service veterinarians from the Veterinary Services Directorate in Ghana participated in PREDICT's disease surveillance activities in the Brong Ahafo region, assisting with safe capture and sampling of bats and rodents, non-invasive sampling of non-human primates, and specimen handling and collection. PREDICT Ghana's Wildlife Coordinator from the Wildlife Division, Dr. Richard Suu-Ire, provides on the job training and mentorship to the these veterinarians.
7	Sierra Leone	PREDICT Sierra Leone trained government field officers for health and Agriculture Ministries in various one health skills ranging from animal sampling, to human behavior surveillance, to integrated laboratory testing. PREDICT Sierra Leone trained 10 government wildlife officers in animal sampling and sample processing using PREDICT protocols for bats, rodents, and non-human primates. PREDICT SL successfully conducted a joint laboratory training for 12 Sierra Leonean laboratory workers covering safe laboratory best practices, RNA extraction, and filovirus detection by molecular techniques. Participants included four Sierra Leone government scientists, four University of Makeni staff, and four PREDICT SL laboratory technicians in July 2017.

	A	B
8	Cameroon	PREDICT has been supporting ongoing surveillance for prioritized zoonotic diseases and other emerging disease threats including filoviruses (such as Ebola and Marburg viruses) and influenza viruses in the South Region of Cameroon (Sangmelima, Meyomessala, and Ebolowa). This surveillance effort, a collaborative partnership with the ministries responsible for livestock (MINEPIA), wildlife (MINFOF), and environment (MINEPDED), is directly strengthening national capacity for zoonotic disease surveillance by providing hands-on training opportunities for government staff from the central, regional, divisional, and sub divisional levels to engage in biosafety; safe animal capture, handling, and sampling; safe sample transport and storage; and viral detection. These experiences are connecting government staff from various ministries with field-based activities using the One Health approach and enhancing their skills for improved implementation of zoonotic disease surveillance and outbreak response. PREDICT also provides laboratory learning opportunities for One Health and continues to be a resource for strengthening the roles played by implementing partners of the National Program for Zoonosis in particular MINFOF, MINEPIA, and MINEPDED. In April 2017, PREDICT assisted OHCEA (One Health Central and Eastern Africa) to expand and strengthen the skillsets of 30 health professionals in biosecurity, biosafety, and risk management. These participants were trained in PREDICT protocols for biosafety and use of personal protective equipment (PPE), safe sample collection, as well as handling, storage and transportation of potentially hazardous and infectious materials. The group was also taken into field settings, including public and private hospitals and poultry farms in Douala, to familiarize participants with the use of PPE in different settings. Trainees included regional and divisional delegates of the Ministry of Health and the Ministry of Livestock, Fisheries and Animal Production, pharmacists from public and private sectors, and representatives from the Universities of Dschang, Buea, Yaoundé, and Montagnes.
9	Democractic Republic of Congo	PREDICT trained 30 students (medical doctors, veterinarians, a medical biologist, and laboratory technicians) from the Field Epidemiology and Laboratory Training Program (FELTP), a program launched in partnership between the World Health Organization, the United States Centers for Disease Control and Prevention, the University of Kinshasa, the African Field Epidemiology Network, and USAID. In March 2017, PREDICT provided training to this cohort of students in project sample collection protocols, including an overview of priority taxa; interfaces of interest; animal capture methods; sample types; sample storage and transport from the field and storage in the laboratory prior to analysis; and lab-based training in conventional PCR analysis and cloning. This training enhanced national and regional capacity for surveillance and investigations in case of outbreak, as FELTP fellows are mostly first responders sent to the field with investigation teams led by the Ministry of Health and Livestock during outbreaks. In June 2017, PREDICT DRC provided training to two behavioral field investigators from the PREDICT/Republic of Congo team to expand and strengthen their skillsets to be able to conduct ethnographic interviews, focus group discussions, as well as transcribe qualitative work . This training increases regional capacity for human behavioral research and analysis of qualitative data to better understand behaviors that put people at risk of zoonotic infection.

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10	Kenya	PREDICT/Kenya has ongoing participation in the development of a curriculum that teaches a One Health approach to camel medicine, welfare, and husbandry, as well as proposed courses in zoonotic disease. These courses will be offered at the University of Nairobi, School of Veterinary Medicine and will be offered as part of a One Health certificate to undergraduate and postgraduate students, and also as part of continuous professional development (CPD) to practicing veterinarians. PREDICT attended One Health platform strategic meetings organized by the Zoonotic Disease Unit (ZDU) and EPT-2 partner P&R. PREDICT contributed through underscoring the gaps that exist in Kenya's wildlife disease surveillance reporting structure. As there is currently no specified reporting for known or suspected outbreaks in wildlife, it was suggested that wildlife reporting could be added to existing protocols used for livestock by trained county veterinarians. In May 2017, PREDICT held a two-day training workshop that included participants from Ministry of Agriculture and Livestock, Ministry of Health, and Ministry of Environment and Natural Resources. The following organizations were represented: Central Veterinary Laboratory (CVL), Kenya Wildlife Service (KWS), Kenya Agriculture and Livestock Organization (KALRO), Kenya Medical Research Institute (KEMRI), Directorate of Veterinary Service (DVS), Zoonotic Disease Unit (ZDU), Institute of Primate Research (IPR), and the University of Nairobi. The training highlighted One Health, particularly as it related to trainings in biosecurity and biosafety and included disease surveillance methods, laboratory safety, and safe animal handling and sampling. PREDICT has arranged to host the Central Veterinary Laboratory (CVL) staff at the Institute of Primate Research (PREDICT's partner lab) for a one-week advanced laboratory diagnostics techniques training for PREDICT related protocols. In May 2017, PREDICT organized a meeting of Middle East Respiratory Syndrome (MERS) researchers in Kenya that included university, government, and other researcher institutes conducting studies of MERS throughout Kenya. Through this coordination meeting, participants discussed current status, future directions, and collaborations for projects.
11	Senegal	PREDICT Senegal provides multiple opportunities for strengthening the One Health workforce through student training, in-depth projects in the field (through the PREDICT partnership with UCAD and EISMV) and lab (through the PREDICT partnership with ISRA and UCAD), and internships on all aspects of zoonotic disease surveillance, detection, prevention, response, and control. Surveillance activities are implemented by the PREDICT/Senegal partners EISMV, UCAD and ISRA in close coordination with district level veterinary and public health professionals (District Veterinary and Parks Officers, District Medical Officers, and government health centre staff) who actively participate in activities increasing the capacity of Senegal's workforce for disease surveillance and detection. The PREDICT Team also enhances capacity of Veterinarian students by acting as guest lectures for the Masters program and One Health Students Club.
12	Uganda	PREDICT/Uganda trained 6 final-year veterinary students and veterinary interns from Makerere University on PREDICT protocols and manuals covering the safe capture and sampling of wildlife.
13	Ethiopia	The PREDICT Ethiopia country coordinator taught One Health and infectious disease epidemiology topical lectures in the Addis Ababa University graduate curriculum. He also mentors two Ethiopian graduate students on using One Health approaches in their research projects. For group trainings, PREDICT Ethiopia conducted laboratory training sessions on viral family PCR screening methods, where ministry lab staff and university students and staff participated.
14	Ivory Coast	The PREDICT/CIV field team, consists of a veterinarian housed at PREDICT's human-focused implementing partner (IPCI), who traines and supervises a team composed of biologists and virologists based at the CIV government agricultural lab.

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15	Liberia	PREDICT participated in the development of the National One Health Platform and National Action Plan for Health Security with other stakeholders. PREDICT is also contributing to the public health lab surveillance strategy by training lab personnel from the NPHIL and MoA to conduct surveillance for known and unknown filoviruses using PREDICT lab protocols. Through a public-private partnership with Arcelor Mittal (AML), a global iron ore mining company with a significant presence in Liberia, PREDICT worked with AML to support screening bats being translocated as part of mining operations for Ebola and related viruses. This was part of a national strategy Liberia and AML had developed for mitigating the effects of disturbance of wildlife reservoirs for ebola viruses as part of planned extractive industry operations.
16	Rwanda	Members of the PREDICT/Rwanda team helped host and teach the inaugural Rx One Health course organized by the UC Davis One Health Institute in collaboration with the University of Rwanda and Sokoine University (Tanzania). PREDICT staff assisted with instruction and several PREDICT staff and affiliates from other countries participated. The goal of the 4-week course held in June was to provide participants with the knowledge, skills and mentors needed to immediately engage in One Health careers. The course enrolled 21 early career professionals from Rwanda, Tanzania, Nepal, Denmark and the US.
17	**ASIA**	
18	Cambodia	PREDICT/Cambodia conducted the first coordinated wildlife, domestic animal, and human field sampling efforts in Cambodia. Using the One Health approach, PREDICT, in coordination with government human and animal health partners from National Animal Health and Production Research Institute (NAHPRI), the Cambodia Communicable Disease Control Department (CDC), and the Forestry Administration (FA) conducted both dry and rainy season concurrent sampling of wildlife, domestic animals, and humans at two high-risk interfaces for zoonotic disease transmission: a cross-border rodent trading hub in Kandal Province, on the border with Vietnam; and a bat guano farming community in Kampong Cham. Sampling occurred with the participation of students from the Royal University of Agriculture (RUA), Royal University of Phnom Penh (RUPP) and the University of Health Sciences (UHS).
19	Nepal	PREDICT Nepal began the first hospital-based human surveillance of fever of unknown origin (FUO) of patients in Nepal in collaboration with Chitwan Medical College and Patan Academy of Health Sciences. Using the PREDICT EIDITH database questionnaires, patients were also screened for having any contact with wild or domesticated animals to examine if the fever was caused by animal-borne viruses.
20	Lao PDR	In June 2017, PREDICT brought together representatives from national, provincial, district and community levels in preparation for the implementation of human syndromic surveillance in Lao PDR. In addition to thoroughly engaging and preparing 15 individuals to implement PREDICT-2 human syndromic surveillance protocols, this training served as an opportunity for cross-organizational dialogue about zoonotic disease surveillance in Lao, between the National Center for Laboratory and Epidemiology, Champasak Provincial Health Office, Khong District Health Office, Khong District Hospital, the Soth Village Healthcare Center, and Na Pa Kieb village. PREDICT provided two days of classroom training in specific protocols and enrolment parameters of the program, ethical considerations in human subjects research, biosafety and security, methods and best practices for obtaining informed consented and conducting quantitative questionnaires, as well as a global and local overview of PREDICT-2. Following this, two days were spent refining field skills in Na Pa Kieb village, where wildlife and livestock surveillance has been ongoing since May 2016.

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21	Vietnam	PREDICT attended, gave presentations and contributed materials in the quarterly meetings of the One Health Communication Network (OHCN) in Viet Nam. OHCN has representatives from different sectors, including human health, animal health, livestock production, wildlife, and environment. PREDICT Viet Nam has had various partners join field surveillance activities from different sectors including the Forest Protection Department and the Department of Animal Health. PREDICT conducted surveillance in both animal and human populations to characterize viral spillover and sharing among human, domestic and wildlife populations. PREDICT has optimized molecular diagnostic protocols for viral detection that can be applied across sample types and species. The project aims to build capacity in national animal health and public health laboratories for early detection of novel viruses. In Viet Nam, PREDICT has partner laboratories in both animal and human sites. PREDICT has shared protocols and training with both laboratories with results and experiences being shared among partners.
22	Malaysia	PREDICT Malaysia participated in talks on Zoonosis and Importance of One Health, Biosafety, PPE use and Lab safety presentations and quizzes and risk assessment practical with focus on lab and field settings in March 2017. These talks were attended by 20 PERHILITAN staff (veterinarians, research officers and wildlife rangers/enforcers), 2 practical students from Management and Science University and 6 Faculty of Veterinary Medicine Universiti Putra Malaysia staff who work for the Malaysia One Health Workforce Country Coordinator. In August 2017, 10 members from teh PREDICT Team and partners from PERHILITAN, NPHL, DVS, FVM UMP and Universiti Malaya (UM) participated in the DTRA Bio-Plex multiplex immunoassay for serological screening training.
23	Mongolia	PREDICT is continuously contributing to the One-Health approach in Mongolia through the following project activities: Training one health professionals in field surveillance and monitoring. In 2017 PREDICT led the avian influenza field surveillance team consisting of 13 veterinarians from six provincial veterinary laboratories, three protected area rangers, and three provincial zoonotic disease center professionals to work as one team while collecting guano samples and investigating mortality among wild migratory birds. This surveillance work creates a professional partnership among different organizations and sets up small hub of One health professionals who are involved in annual training, communication. and workforce strengthening.
24	Myanmar	In applying the One Health approach, PREDICT/Myanmar is implementing field-based zoonotic disease surveillance and sample analysis activities, through capacity building using PREDICT protocols for laboratory staff, health/ hospital personnel, and field personnel at 2 concurrent focus surveillance sites. Volunteer assistants and health officials from the Ministry of Health & Sports (MOHS) participate in delivering quantitative behavioral interviews paired with biological sample collection from community members, with over 2,000 samples collected from over 200 individuals to date. Three universities and partner laboratories have all requested One Health related lectures to be given by PREDICT staff. Over 10 One Health lectures were offered to over 500 students this year. Several students who have attended these lectures have gone on to volunteer for the project in field surveillance.

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25	Bangladesh	The One Health Economics Fellowship provides support for an early-career professional to develop and implement country-level data collection and analysis on the economic burden of diseases to help inform multi-sectoral action for health security. The inaugural Fellow is hosted at the Institute for Epidemiology, Disease Control and Research in Dhaka. In November 2016, PREDICT organized a workshop with the Institute of Epidemiology Disease Control and Research (IEDCR) to introduce One Health concepts and career opportunities among young professionals in science. From January to February 2017, the PREDICT team was requested by the Government of Bangladesh to investigate a crow mortality event at using a One Health approach in the Rajshahi Medical College Hospital area and in Dhaka City where a crow die-off had been reported. The investigation was led by IEDCR in collaboration with PREDICT, FAO, Bangladesh Livestock Research Institute (BLRI) and the Government of Bangladesh Department (GoB) of Livestock Services (DLS). From March 6-11th, 2017 the PREDICT team was invited to participate in a One Health investigation of a suspected Nipah virus outbreak in people in Faridpur, Bangladesh. In September, 2017 PREDICT was an organizing partner for the 9th One Health Bangladesh Conference in Dhaka and had several oral talks and posters accepted for presentation (see above). This conference had 700 people in attendance.
26	Indonesia	PREDICT Indonesia welcomed Ms. Tengku Idzan Nadzirah from the Department of Parasitology Molecular Laboratory, Faculty of Medicine, University of Malaya, Kuala Lumpur for a fellowship program in collaboration with SEAOHUN (South-East Asia One Health University Network), from September 11th to December 11th, 2017. Ms. Tengku Idzzan is working at the PRC-IPB and EIMB labs to gain hands on experience in laboratory assays for zoonotic disease detection. The objectives of the fellowship are to provide fellows with practical, trans-disciplinary experience in One Health projects and to encourage them to integrate and apply One Health experience and knowledge into their professional practice.
27	**MIDDLE EAST (Regional)**	
28	Jordan	PREDICT-2 Jordan identified focal point partners from Ministry of Agriculture (MOA), Ministry of Health (MOH), Ministry of Environment (MOE), World Health Organization (WHO), Food and Agriculture Organization (FAO), World Organisation for Animal Health (OIE), and the Royal Scientific Society (RRS). All partners are fully engaged in the project. This committee meets regularly to update all partners about PREDICT project and serves as a platform for implementation of the One Health approach in Jordan.
29	**GLOBAL**	
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33	***for the period 10/1/16-9/30/17 ONLY**	
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	A	B	C	D	E	F	G
1	**NEW INDICATOR**						
2	**Indicators 2.1a**	Total # of faculty members that received OH training or professional development	Female	Male	*Animal Health Field	*Human Health Field	*Other
3	**AFRICA (Regional)**						
4	Cameroon						
5	Cote d'Ivoire						
6	DRC						
7	Ethiopia	2		2			
8	Gabon						
9	Ghana	3	2	1			
10	Guinea						
11	Kenya	4	2	2			
12	Liberia						
13	RoC						
14	Rwanda						
15	Senegal	5	1	4			
16	Sierra Leone						
17	South Sudan						
18	Sudan						
19	Tanzania	2	1	1			
20	Uganda						
21	**ASIA (Regional)**						
22	Bangladesh						
23	Cambodia						
24	China						
25	India						
26	Indonesia						
27	Lao PDR						
28	Malaysia	15	6	9			
29	Mongolia						
30	Myanmar	6	6				
31	Nepal						
32	Philippines						
33	Thailand	1	1				
34	Vietnam						
35	**MIDDLE EAST (Regional)**						
36	Egypt						
37	Jordan	2		2			
38	**GLOBAL**						
39	Canada						
40	United States						
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42	**Total**	**40**	**19**	**21**			

2.1a (TRAINING) AR

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2	*Faculty are defined as those within a University/academic research institute that report as not being a student; participant can report multiple fields of health area*
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43	***for the period 10/1/16-9/30/17 ONLY**						
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	A	B	C	D	E	F	G
1	**NEW INDICATOR**						
2	**Indicators 2.1b**	**Total # of educational materials developed**	**OH Modules**	**Case Studies**	**Training Manuals**	**Textbooks**	**Other (including PPT's)**
3	**AFRICA (Regional)**						
4	Cameroon	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
5	Cote d'Ivoire	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
6	DRC	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
7	Ethiopia	32			E-book Guides, See Below		
8	Gabon						
9	Ghana	32			E-book Guides, See Below		
10	Guinea	23			E-book Guides for EHP Countries, See Below		
11	Kenya	32			E-book Guides, See Below		
12	Liberia	23			E-book Guides for EHP Countries, See Below		
13	RoC	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
14	Rwanda	32			E-book Guides, See Below		

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2	*Educational Materials refer to instructional course or training modules/materials (including course packets, instructor guidelines, quizzes, standard operating protocols), stand-alone textbooks or case studies, FETPV materials*
3	***for the period 10/1/16-9/30/17 ONLY**
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15	Senegal	32			E-book Guides, See Below		
16	Sierra Leone	25			E-book Guides for EHP Countries, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
17	South Sudan						
18	Sudan						
19	Tanzania	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
20	Uganda	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
21	**ASIA (Regional)**						
22	Bangladesh	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
23	Cambodia	32			E-book Guides, See Below		
24	China	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
25	India	32			E-book Guides, See Below		

	A	B	C	D	E	F	G
26	Indonesia	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
27	Lao PDR	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
28	Malaysia	32			E-book Guides, See Below		
29	Mongolia	32			E-book Guides, See Below		
30	Myanmar	32			E-book Guides, See Below		
31	Nepal	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
32	Philippines						
33	Thailand	32			E-book Guides, See Below		
34	Vietnam	34			E-book Guides, See Below; Ethnographic interview data collection instrument with refined intervention-focused probe; Focus group data collection instrument with refined intervention-focused probe		
35	**MIDDLE EAST (Regional)**						
36	Egypt	32			E-book Guides, See Below		
37	Jordan	32			E-book Guides, See Below		
38	**GLOBAL**						
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42	***for the period 10/1/16-9/30/17 ONLY**						
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	A	B	C	D	E	F	G
44	**E-book Guides for Non-EHP Countries (32):**	**E-Book Guides for EHP Countries (23):**					
45	Emergency Preparedness (English and French)	Emergency Preparedness (English and French)					
46	Biosafety and PPE Use (English and French)	Biosafety and PPE Use (English and French)					
47	Safe Animal Capture and Sampling (Module and Quiz)	Safe Animal Capture and Sampling (Module and Quiz)					
48	Non-Human Primate Sampling Methods	Non-Human Primate Sampling Methods					
49	Bat Sampling Methods (English and French)	Bat Sampling Methods (English and French)					
50	Rodent Sampling Methods (Module and Quiz; English and French)	Rodent Sampling Methods (Module and Quiz; English and French)					
51	Small Carnivore Sampling Methods (Module and Quiz)	Small Carnivore Sampling Methods (Module and Quiz)					
52	Avian Sampling Methods (Module and Quiz)	Livestock Sampling Methods					
53	Livestock Sampling Methods	Bushmeat Sampling Methods (English and French)					
54	Bushmeat Sampling Methods (English and French)	PREDICT Reportable Information, Unanticipated Problem, & Adverse Event Reporting Form					
55	Pangolin Sampling Methods (English and French)	Implementing Cold Chain for Safe Sample Transport and Storage (English and French)					
56	Country IRB Checklist - Master Protocol	Packing and Shipping Biological Samples					
57	Country IRB Submission Instructions - Master Protocol	Basic Laboratory Safety (English and French)					
58	Human Syndromic Surveillance	Providing Assistance During a Disease Outbreak or Health Event (Module and Quiz; English and French)					
59	PREDICT Reportable Information, Unanticipated Problem, & Adverse Event Reporting Form	PREDICT Outbreak or Health Event Rapid Report, Daily Activities Log, and Contact Worksheet					
60	PREDICT Qualitative Research Protocol and Appendices	PREDICT Outbreak or Health Event Assistance Task Checklist					

	A	B	C	D	E	F	G
61	Qualitative Research: Introduction and Observational Research Guide (Module and Quiz)	QGIS User Guide					
62	Qualitative Research: Focus Groups, Ethnographic Interviews, and Data Analysis Guide (Module and Quiz)	Ethics and Policy Resources					
63	Implementing Cold Chain for Safe Sample Transport and Storage (English and French)	Training and Quiz Guidance Quick Reference					
64	Packing and Shipping Biological Samples	EIDITH Training Bubble Form Instructions					
65	Basic Laboratory Safety (English and French)	PREDICT Training Completion Certificate					
66	Providing Assistance During a Disease Outbreak or Health Event (Module and Quiz; English and French)	Adobe Connect Troubleshooting Guide for Trainings					
67	PREDICT Outbreak or Health Event Rapid Report, Daily Activities Log, and Contact Worksheet	Ethical Considerations-PREDICT					
68	PREDICT Outbreak or Health Event Assistance Task Checklist						
69	QGIS User Guide						
70	Ethics and Policy Resources						
71	Training and Quiz Guidance Quick Reference						
72	EIDITH Training Bubble Form Instructions						
73	PREDICT Training Completion Certificate						
74	Adobe Connect Troubleshooting Guide for Trainings						
75	CITI Training for PREDICT-2 Staff						
76	Ethical Considerations-PREDICT						

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1	**NEW INDICATOR**							
2					*SEX		*AFFILIATION	
3	**Indicators 2.2a**	Total # of future professionals trained	Female	Male	Undeclared	*Animal Health Field	*Human Health Field	Other
4	**AFRICA (Regional)**							
5	Cameroon	13	7	6				
6	Cote d'Ivoire							
7	DRC							
8	Ethiopia	1		1				
9	Gabon							
10	Ghana							
11	Guinea							
12	Kenya	7	5	2				
13	Liberia							
14	RoC							
15	Rwanda	6	1	5				
16	Senegal							
17	Sierra Leone							
18	South Sudan							
19	Sudan							
20	Tanzania	9	1	8				
21	Uganda	2	1	1				
22	**ASIA (Regional)**							
23	Bangladesh							
24	Cambodia	19	9	10				
25	China	2		2				
26	India							
27	Indonesia							
28	Lao PDR							
29	Malaysia	19	8	11				
30	Mongolia							
31	Myanmar	25	17	8				
32	Nepal	1		1				
33	Philippines							
34	Thailand							
35	Vietnam	2		2				
36	**MIDDLE EAST (Regional)**							
37	Egypt	1	1					
38	Jordan							
39	**GLOBAL**							
40	United States	14	10	4				
41	Europe	1	1					
42	**TOTAL**	**122**	**61**	**61**				

2.2a (TRAINING) AR

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3	*Future professionals = Individuals enrolled in certificate/degree programs at member universities, regardless of whether were once in the workforce or not. This classification is based on self-identification by the participant on OHW training rosters. For P2, students are self-identified during training sessions.*
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15	*Rx Course*
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32	*Rx Course*
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40	11 Rx Course (8 female, 3 male)
41	Rx Course
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43	***for the period 10/1/16-9/30/17 ONLY**							
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	A	B	C	D	E	F	G	H
1	NEW INDICATOR							
2				*SEX			*AFFILIATION	
3	**Indicators 2.2ba**	Total # of OH fellows placed	Female	Male	Undeclared	Animal Health Field	Human Health Field	Other
4	AFRICA (Regional)							
5	Cameroon							
6	Cote d'Ivoire							
7	DRC							
8	Ethiopia							
9	Gabon							
10	Ghana							
11	Guinea							
12	Kenya							
13	Liberia							
14	RoC							
15	Rwanda							
16	Senegal							
17	Sierra Leone							
18	South Sudan							
19	Sudan							
20	Tanzania							
21	Uganda	1		1			1	
22	ASIA (Regional)							
23	Bangladesh							
24	Cambodia							
25	China							
26	India							
27	Indonesia	1	1					1 (both animal and human health)
28	Lao PDR							
29	Malaysia							
30	Mongolia							
31	Myanmar							
32	Nepal							

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2	***PREDICT does not disaggreate #'s of OH fellows Health Field**
3	*Fellowship includes temporary placement in an approved One Health organization/activity; Fellows include students and early-career professionals*
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21	*Daniel Jacob Emong, a student from Makerere University was engaged in a One Health Fellowship with the PREDICT-2 project to support the behavioral risk team with understanding the human behaviors and potential risk factors associated with transmission of priority zoonotic diseases and other emerging threats. During the Fellowship, Daniel received training in behavioral risk methods (qualitative research methods: ethnographic interviews, focus groups) and analysis of qualitative data using PREDICT's universal code book and the software program Dedoose.*
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27	*SEAOHUN Fellowship for Ms. Tengku Idzzan Nadzirahat with PREDICT Indonesia based at PRC-IPB and EIMB focusing on laboratory activities.*
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	A	B	C	D	E	F	G	H
33	Philippines							
34	Thailand							
35	Vietnam							
36	**MIDDLE EAST (Regional)**							
37	Egypt							
38	Jordan							
39	**GLOBAL**							
40		*1*	1					
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42	**Total**	**3**	**2**	**1**				
43	***for the period 10/1/16-9/30/17 ONLY**							
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40	██████████ joined UC Davis as a One Health leadership fellow working on several projects including PREDICT, the Global Virome Project and the One Health working group for the National Academies of Sciences, Engineering and Medicine. She received a Doctorate of Veterinary Medicine from Nippon Veterinary and Life Science University in Tokyo, Japan in 2014 and moved to the U.S. that year to study infectious disease epidemiology at Yale.
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1	**Indicator 2.2c**			**By Sex**			***Affiliation**	
2		**Total # of current professionals trained**	Female	Male	Undeclared	Government	Academia/Research	Other
3	**AFRICA**	**AR TOTAL**						
4	Cameroon	117	50	67				
5	Cote d'Ivoire	1		1				
6	DRC	13	2	11				
7	Ethiopia	5	1	4				
8	Gabon							
9	Ghana	12	5	7				
10	Guinea	46	6	40				
11	Kenya	43	17	26				
12	Liberia	12	2	10				
13	RoC	2		2				
14	Rwanda	12	5	7				
15	Senegal	17	5	12				
16	Sierra Leone							
17	South Sudan							
18	Sudan							
19	Tanzania	17	5	3	9			
20	Uganda							
21	**ASIA**							
22	Bangladesh	17	7	10				
23	Cambodia	26	10	16				
24	China	7	3	4				
25	India	10		5	5			
26	Indonesia	6	2	4				
27	Lao PDR	8	5	3				
28	Malaysia	187	78	109				
29	Mongolia	2		2				
30	Myanmar	116	81	35				
31	Nepal	14	4	10				
32	Philippines							
33	Thailand	33	6	27				
34	Vietnam	3	1	2				
35	**MIDDLE EAST**							
36	Egypt	1		1				
37	Jordan	8	3	5				
38	**GLOBAL TEAM**							
39	Canada	2	1	1				
40	United States	14	11	3				

2.2c (TRAINING) AR

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1	***PREDICT does not disaggreate #'s of current professionals by affiliation**
2	*Current professional: all project staff (including faculty, lab and veterinarians, and administrative/support staff who work on the P2 project).*
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42	Total	751	310	427	14			
43	***for the period 10/1/16-3/31/17 ONLY**							

	A	B
1	New Indicator	
2	**Indicator 3A (Outcome Level)**	**QUALITATIVE INDICATOR:** List/Description of national/regional coordination mechanisms showing improved capacity *include national/regional mechanism that has shown improvement, evidence of improvement (how/why coordination mechanisms has shown improvement)
3	**Indicate Country, Region or Global**	
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5	AFRICA	
6	Guinea	PREDICT Guinea is a member of the newly formed Coordination Committee for the national Guinea One Health Platform. PREDICT Guinea participates in meetings with national stakeholders to share technical knowledge and skills related to surveillance and identification of key pathogens such as Ebola and Marburg (Viral Hemorrhagic Fevers) promoting One Health through action. PREDICT Guinea collaborated with partners from FAO and P&R in technical working groups focused on strengthening capacity for surveillance of priority endemic and emerging zoonotic diseases in Guinea.
7	Tanzania	From November 15-17, 2016, PREDICT contributed to the 5-year GHSA Road Map workshop aimed at supporting Development of Tanzania's 5-year National Action Plan for Health Security. Additionally, PREDICT Tanzania's Principal Investigator was appointed as a member of the One Health Technical Working Group by the Vice Chancellor of Sokoine University of Agriculture and the Tanzania Prime Minister's office. PREDICT continued to engage Ministry partners and foster multi-sectoral dialogue working closely with the One Health Coordinating Unit and Prime Minister's Office to improve preparedness and response for potential outbreaks.
8	Ghana	To support strengthening of and coordination within national disease surveillance and laboratory networks in Ghana for rapid detection of zoonotic viruses, PREDICT/Ghana team members from the Accra Veterinary Laboratory of the Veterinary Services Directorate at the Ministry of Food and Agriculture, and the Noguchi Memorial Institute for Medical Research at the University of Ghana participated in a series of laboratory-based training workshops. These implementing partners, all critical nodes in Ghana's animal and human surveillance and laboratory networks, are well integrated with the national surveillance systems and serve as the centers working to advance Ghana's capabilities for detecting known and novel viral threats. PREDICT contributed to enhancing capacity for increased coordination between laboratories through a joint laboratory protocol training workshop with personnel at the Accra Veterinary Laboratory (AVL) and Noguchi Memorial Institute for Medical Research (NMIMR). The workshop, held at the AVL, included hands-on training sessions on laboratory biosafety, nucleic acid extraction, cDNA synthesis, gel electrophoresis, and results interpretation using PREDICT viral-family PCR techniques. As a result of these laboratory trainings, PREDICT Ghana team members are equipped with a broader technical skill set, thus expanding the capabilities of the animal and human laboratory networks for rapid detection of novel viral threats in country. Further, PREDICT has contributed to increased coordination between the animal and human laboratory networks. Personnel from AVL and NMIMR who are working on the project participate in regular meetings to coordinate on surveillance and laboratory analyses for zoonotic viruses.
9	Sierra Leone	PREDICT Sierra Leone organized and conducted five district level One health platform trainings for 45 government personnel in Bombali, Western Area urban, Koinadugu, Kono and Kambia districts. In collaboration with other EPT partners (WHO, FAO, and GoSL ministry partners), participants were introduced to the one health platform implementation process and related best practice strategies for full implementation and success. PREDICT Sierra Leone held over 28 one health meetings at the community level to engage with local community stakeholders and with local government health and agriculture counterparts to discuss zoonotic disease control efforts and how PREDICT project activities increase the capacity of Sierra Leone to combat emerging health threats through trainings and field activities.
10	Cameroon	PREDICT continued to support the government of Cameroon during outbreak events to improve response efforts. PREDICT provided analysis of samples from two animal die-off events: a bat die-off that occurred in May 2017 in northern Cameroon and a gorilla death in Mambele, Eastern Cameroon in September 2017. Results of PREDICT testing for both die-off events were shared across government sectors, with the National Veterinary Laboratory (LANAVET) and the Military Health Research Centre (CRESAR).

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2	*Includes evidence of Improved coordination of the national focal points with sub-national and community levels; multi-ministry or multi-sectoral teams on the ground (for example, in outbreak investigations).*
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11	Democractic Republic of Congo	PREDICT DRC facilitated the USAID purchase of a mobile laboratory, received by Institut National Recherche Biomedicale (INRB), the national reference laboratory of DRC, in November 2016. This K-Plan mobile laboratory effectively strengthens the country's ability to respond to outbreaks through rapid detection of causative agents using serology and molecular biology. From November 30-December 16, 2016, 10 staff (primarily medical biologists and lab technicians from the Virology Department of INRB) were trained to use the mobile lab, and 13 more INRB staff were trained in April 2017. PREDICT DRC coordinated USAID yellow fever outbreak response funds to support: laboratory diagnostics at the INRB; a feasibility study for the deployment of the mobile laboratory in Lufu (a DRC border city with Angola where the first imported cases of yellow fever were detected); training of INRB staff for sustained use of the mobile lab for effective and rapid response investigations; and immunization campaigns. PREDICT assisted in the early detection of an outbreak of Ebolavirus in the Nambwa health area, Likati health zone, Bas-Uele province, Democratic Republic of Congo in May 2017. Based on the early results of the INRB and PREDICT laboratory tests, the DRC government could rapidly enact disease control measures such as quarantine, dispatch the USAID-purchased K-Plan mobile laboratory to Buta, dispatch lab equipment to Likati, including a PREDICT PCR machine, and conduct contact tracing. PREDICT actively supported the National Committee for Zoonosis and shared PREDICT protocols, discussed for possible use in the GHSA DRC country road map, at a meeting held at the Ministry of Health Direction of Disease Control on 28 February 2017. PREDICT shared protocols for laboratory pathogen detection, surveillance at animal-human interfaces, and human syndromic surveillance in hospitals, with those in attendance, including the Secretary General of the Ministry of Agriculture; Director of the Ministry of Health (MOH) national program for hygiene at borders and the focal point for International Health Regulations; Director of the Kinshasa School of Public Health, University of Kinshasa; Director of the MOH Direction of Disease Control; and the WHO focal point for disease surveillance. PREDICT participated in a meeting held at the Kinshasa School of Public Health on 12 April 2017, alongside representatives from the Ministries of Health, Environment, Agriculture and Livestock, and the Centres for Disease Control and Prevention, to prepare terms of reference for the strengthening of multi-sectoral coordination for the prevention, detection and response to priority zoonotic diseases in DRC. In addition to the terms of reference being developed, this meeting served to designate three national experts to conduct a detailed assessment of each sector's capacity (human health, animal health and environment). PREDICT was requested and agreed to share questionnaires used for the characterization of risk factors for zoonosis with this group, which will include the One Health national coordination committee going forward.
12	Senegal	Through the PREDICT Senegal implementing partners EISMV, ISRA and UCAD, the One Health network in Senegal engages all ministries, and government partners such as the Ministry of Agriculture, Ministry of Livestock, Ministry of Environment, Ministry of Health, and the Department of National Parks. PREDICT Senegal actively participates in the National GHSA Task Force as well as the COUS and serves as a resource for the development and operationalization of Senegal's One Health Strategic Plan improving national coordination related to One Health security.
13	Uganda	PREDICT Uganda participated in the inaugural meeting of the National One Health Technical Working Group (OHTWG) on October 11, 2016 in Kampala, a prelude to the formal launch of the National One Health Platform (NOHP) in Kampala on November 3, 2016. The NOHP is a multisectoral and multidisciplinary collaboration between the Ministry of Agriculture, the Ministry of Health, the Ministry of Water and Environment, and the Uganda Wildlife Authority. The NOHP was established to provide technical guidance to the government in the implementation of the One Health approach to strengthen cross-sectoral collaboration to prevent, detect, and respond to zoonotic and other emerging health threats. As a member of the NOHP's OHTWG, PREDICT Uganda provided technical input at its 3-day One Health Strategic Plan development workshop held in Kampala May 30-June 1, 2017.

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14	Republic of Congo	PREDICT Republic of Congo has assisted in putting in place a multi-sectorial One Heatlh (EPT) consortium involving: MoD, MoH, Ministry of agriculture, Ministry of forestry and wildlife, Ministry of environment, Ministry of scientific research, Ministry of finance, Homeland Ministry, WHO, and FAO. Through the consortium described above, The PREDICT RoC team led advocacy at the national level, particularly at the level of the Ministry of Health and WHO, for the establishment of an EPT Consortium. This was done through the establishment of an IHR Committee (International Health Regulations) which, in the Congo, acts not only as an EPT Consortium (One Health) but also as an intersectoral/multisectoral committee for preparedness and response to disease outbreaks. This committee is chaired by the Director General of Epidemiology and Disease Control and Response (DGELM). Within the frame work of the IHR Committee, PREDICT RoC supported the last Monckeypox epidemic in the North of the country in 2017.
15	Ethiopia	The PREDICT Ethiopia Country Coordinator participated in the series of planning meetings to establish an Ethiopian National One Health Council that works across sectors to strengthen capacity for surveillance and response to priority endemic and emerging infectious diseases in the country.
16	Ivory Coast	PREDICT CIV was involved in the development of CIV's National Health Security plan via attendance at and participation in a workshop in July of 2017, which prioritizes building laboratory capacity and surveillance of AMR and zoonotic disease. PREDICT CIV has assisted in increasing coordination between the Ministry of Health, the National Institute of Public Health and ICPI, FAO, LANADA and the Ministry of Agriculture, OIPR and the Ministry of Wildlife resources and Game hunting by holding joint meetings and improving information sharing and communication on EPT epizootics surveillance at the inter-ministerial level.
17	Liberia	PREDICT has greatly improved capacity in wildlife surveillance for zoonotic viruses in Liberia. In addition, PREDICT has participated and contributed to the development of the One Health Platform lead by P&R's efforts. Through the these efforts PREDICT has taken the lead on better coordination of surveillance activities with the Ministry of Agriculture (MoA) and FAO, spearheaded the rabies technical working group as a vehicle for improved communications and coordination across the health sectors, and worked closely with FAO, the MoA and Ministry of Health (MoH) to develop a workplan for the World Bank's REDISSE project. PREDICT has also begun initial discussion with the National Public Health Institute of Liberia (NPHIL) to roll out the Word Bank's One Health Assessment tool in Liberia as a pilot study. PREDICT's presence at the weekly National Epidemic Preparedness, Response and Control meetings has led to better coordination and information sharing across the health sectors. Capacity building within Liberia's laboratory network is being coordinated by PREDICT along with FAO, MoA and NPHIL.
18	Rwanda	Following an outbreak of highly pathogenic avian influenza in Uganda and reports of a wild bird die-off in Rusizi District, Rwanda, PREDICT Rwanda assisted the Ministries of Agriculture and Health and the Rwanda One Health Steering Committee (ROHSC) with a field investigation. Though no dead birds were observed or sampled during the trip, PREDICT contributed to the government's public sensitization campaign on avian influenza by informing local communities about disease prevention through local and national radio shows. In addition, PREDICT participated in a two-day workshop organized by the Ministry of Agriculture (January 26-27, 2017) to update the national contingency plan for Avian Influenza. As well, as part of PREDICT's strategy for strengthening regional networks for One Health and zoonotic disease surveillance across Africa, the PREDICT/Rwanda team hosted PREDICT team members from Senegal for an intensive field training to share best practices. Trainings focused on biosafety, safe wildlife capture and sampling, human syndromic surveillance, cold chain, sample storage and transport, and data management. PREDICT/Rwanda then travelled to Senegal in August to provide in situ training on wildlife sampling.
19	**ASIA**	

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20	Nepal	PREDICT Nepal brought together and worked with three separate departments under the Ministry of Health: Nepal Agricultural Research Council (NARC), Nepal Health Research Council (NHRC), and Central Veterinary Laboratory (CVL) to increase coordination related to emerging disease detection and response. PREDICT Nepal coordinated with CVL in March, 2017 during the H5N8 influenza outbreak. Center for Molecular Dynamics Nepal's (CMDN) collaboration with CVL assisted in swift subtype characterization as well as rapid detection and confirmation of the virus that resulted in infection and death of 3650 chicken and further culling of 6200 of them. NARC conducted a study that screened for antimicrobial resistance in Jadibuti, a squatter settlement situated in Kathmandu that has abundance of animal production in its vicinity.
21	Lao PDR	In January 2017, the government of Lao approved the synchronized and concurrent One Health surveillance plan that was developed by PREDICT and the Food and Agriculture Organization (FAO) of the United Nations, in consultation with the National Animal Health Laboratory and the National Center for Laboratory and Epidemiology. PREDICT has created a strong foundation in Lao PDR for successful coordination of partner efforts, working to ensure concurrent longitudinal surveillance of wild animal and livestock populations at the same sites, which were selected as high-risk interfaces for zoonotic disease transmission between wildlife, livestock, and people. Relationships strengthened by the PREDICT program between local villages and District, Provincial, and National departments of public health have increased the coordination of surveillance efforts, increased the awareness of local health issues, and broadened the dialogue between the different levels of public health and animal health sectors.
22	China	At a provincial level, PREDICT China activities in Guangdong and Yunnan provinces helped increase collaboration and communication between provincial-level CDCs and prefecture/county-level hospitals and CDCs, creating more effective surveillance systems with improved reporting mechanism and cold chain within the provinces. At a national level, PREDICT China cultivated the communication among Chinese Central CDC, Chinese Academy of Sciences, and the State Forestry Administration, initiating a reporting and approval system for detected viruses from wild animals.
23	Vietnam	Longitudinal Influenza Surveillance Network (LISN) is designed to link existing influenza surveillance in livestock, wildlife and humans with the goal to support the Ministry of Health (MOH) and Ministry of Agriculture and Rural Development (MARD) to expand surveillance for influenza and other viruses with pandemic potential in Viet Nam. PREDICT Viet Nam had meetings with FAO and WHO to discuss cooperation in disease surveillance in the LISN provinces. Through the LISN coordination meetings, PREDICT Viet Nam and other partners shared results of the surveillance activities and both sides reviewed and clarified surveillance implementation plans and discussed future opportunities for joint sample collection and data analysis. A subset of animal and human samples collected through the LISN initiative have been tested for viruses of pandemic potential using PREDICT protocols.
24	Mongolia	PREDICT Mongolia has developed a field wildlife mortality reporting tool and data compilation process, which did not exist in Mongolia prior. PREDICT Mongolia are providing technical assistance with detecting gaps and finding solutions to support the national outbreak reporting and coordination mechanism related to wildlife outbreak response activities.
25	Myanmar	The PREDICT Myanmar team actively participated in the One Health Workforce meeting organized by USAID and SEAOHUN and provided technical inputs and suggestions in introducing the One Health concept, among 3 ministries, universities and other implementing partners, particularly strengthening their capacities in disease surveillance and outbreak response. PREDICT Myanmar has also been integrated into MOHS decision making and planning for One Health implementation throughout the country; a new priority and directive for Myanmar.

	A	B
26	Bangladesh	Between Oct. 31st - Nov. 4th, 2016 PREDICT Bangladesh Team, jointly with FAO and Department of Livestock Services (DLS), mapped areas on the northwestern and southwestern border districts of Bangladesh to investigate the trans-boundary animal value chain between Bangladesh and India. The collaborative team outlined maps of transboundary animal value chain through the rapid assessment. FAO then hosted a meeting in which all the teams presented their maps and observation to formulate a combined Transboundary Animal Value Chain map. Between Nov. 23-24, PREDICT organized a workshop with the Institute of Epidemiology Disease Control and Research (IEDCR) on introducing One Health among young professionals in science. On January 16th 2017, a PREDICT team member attended a meeting on the "Proper disposal of dead crows in Rajshahi Medical College Hospital area" at Rajshahi City Corporation and shared the PREDICT protocols related to proper procedures regarding carcass disposal. From March 13th to 15th, 2017 the PREDICT Bangladesh team participated in the regional One Health workshop on Zoonotic Disease Pandemic Preparedness for South Asia, One Health Platform in Kathmandu, Nepal. Between the 24th to 29th March, 2017, the PREDICT team organized a five-day field training on rhesus macaque disease surveillance, biosafety and zoonoses. The team trained GoB Forestry Officers, PREDICT global team members and partners from the PREDICT India team on rhesus macaque capture, sampling and the use of personal protective equipment while in the field. This training will help to increase the workforce capacity in wildlife disease surveillance. Between the 3rd to 9th of April 2017, the PREDICT team organized a seven-day field training on "Disease Surveillance in Rodents, Zoonotic Disease and Biosafety". The team trained GoB Forestry Officers, PREDICT global team members and partners from the PREDICT India team on rodent capture, sampling and the use of personal protective equipment while in the field. This training will help to increase the workforce capacity in wildlife disease surveillance. On April 13th, and 15th to 20th, 2017, the PREDICT team organized a 7 day field training on the "Transmission Ecology of Bat-born Emerging Infectious Zoonotic Diseases". The team trained GoB Forestry Officers, PREDICT global team members and partners from the PREDICT India team on setting of mist net; the capture, sampling and safe release of bats; and the use of personal protective equipment required for bat capturing and sampling in the field. This training will help to increase the capacity of participants to conduct wildlife disease surveillance, while ensuring proper animal welfare and personal safety standards are adhered to.
27	Indonesia	PREDICT Indonesia was invited and participated in a forum group discussion organized by the Directorate of Biodiversity Conservation of Ministry of Environment and Forestry on September 12, 2017 to discuss about the draft of Ministerial Decree on Prevention and Control of Wildlife Diseases. The discussion was attended by representatives from Ministry of Agriculture and Ministry of Health, as well as representatives from FAO-ECTAD Indonesia and Faculty of Veterinary Medicine of Institut Pertanian Bogor, and other staff from the Ministry of Environment and Forestry. Further meetings will be conducted in the future. PREDICT Indonesia completed the final series of four trainings on detection of known and emerging viral threats with Animal Disease Investigation Center (DIC) laboratory staff. This final training series consisted of a multi-day training session for lab staff from the DICs of Subang-West Java and Bukittinggi-West Sumatra (2 men and 2 women) on training other laboratory leads ("Training of the Trainers") in use of PREDICT protocols that broadly detect pathogens within priority zoonotic viral families of public health concern. The training was held at the Primate Research Center at Bogor Agricultural University in coordination with FAO on February 6-14, 2017. The second training session on March 13, 2017 focused on results analysis, equipping the trainees with the bench skills required for running viral detection tests and the knowledge to interpret them.

	A	B
28	India	As part of PREDICT's regional approach to capacity strengthening and developing One Health networks among active professionals, the PREDICT/India team trained with project partners in Nepal and Bangladesh, enhancing regional coordination and building a network to augment skills and competencies for zoonotic disease surveillance in South Asia. PREDICT Nepal, Bangladesh, and India teams also include members of the One Health Alliance of South Asia (OHASA), a transboundary science and policy network that includes members from India, Bangladesh, Nepal, Pakistan, and Bhutan.
29	**MIDDLE EAST (Regional)**	
30	Jordan	PREDICT Jordan initiated a quarterly One Health focal points meeting, with participants from PREDICT Jordan, Ministry of Agriculture (MOA), Ministry of Health (MOH), Ministry of Environment (MOE), World Health Organization (WHO), Food and Agriculture Organization (FAO), World Organisation for Animal Health (OIE), and the Royal Scientific Society (RRS). This platform enables the implementation of the One Health approach in Jordan at the national level.
31	**GLOBAL**	
32		4-5 May 2017: First meeting of CBD-WHO Interagency Liaison Group on Biodiversity and Health (including participation from UNISDR, FAO, OIE): The meeting identified priority topics and resources for inter-agency One Health collaboration (with ongoing technical support from PREDICT colleagues). Additionally, key gaps were identified that can be addressed at country and global level using lessons from PREDICT (for example, strategies for coordinated biodiversity and health monitoring programs, wildlife disease surveillance capacity, targeting high-risk interfaces, etc.)

	A	B
1	**New Indicator**	
2	**Indicator 3B (Outcome Level)**	**QUALITATIVE INDICATOR:** List/Description of global, regional or country (lab, surveillance, workforce, OH, AMR) strategies under implementation *include title of strategy, brief description of focus/topic of strategy, if the strategy was endorsed and by whom
3	**Indicate Country, Region or Global**	
4	**AFRICA**	
5	Guinea	PREDICT Guinea is a participating member of the national Guinea One Health Platform. Through this platform, PREDICT Guinea fosters discussions and collaborations on multi-sectoral zoonosis detection and response, providing technical input when requested.
6	Tanzania	PREDICT worked with government and local partners to strengthen national capacity for zoonotic disease surveillance using a broadly applicable, rapidly deploy-able, and easily adaptable system that emphasizes core skills needed for surveillance of priority diseases such as Ebola, Marburg, and influenza, as well as unknown and potentially emerging zoonotic disease threats. The PREDICT Tanzania Principal investigator also helped to facilitate the multi-sectoral One Health zoonotic disease prioritization workshop. The result of the workshop led to the identification of Rabies, Rift Valley Fever and other hemorrhagic fevers (Marburg and Ebola), zoonotic influenza virus, Anthrax, Human African Trypanosomiasis, and Brucellosis as priority zoonotic diseases for Tanzania.
7	Ghana	PREDICT/Ghana has been involved in the Joint External Evaluation of IHR Core Capacities of Ghana. A JEE evaluation was conducted in Ghana from February 6-10, 2017 with external subject matter experts from WHO, CDC, the Norwegian Institute of Public Health, the German Development cooperation (GIZ), the Japanese Development Cooperation (JICA) and the FAO, facilitating the validation of the self-assessment report and scores previously reported by multi-sectoral and multidisciplinary stakeholders in Ghana. On June 24, 2017, key national and international stakeholders were brought together to develop the national implementation plan and on October 30 – November 2, 2017 to compile the final draft of the plan for implementation. PREDICT/Ghana was invited to assist with developing the national implementation plan and led development of the plan for the Zoonoses Action Package with PREDICT's Wildlife Disease Coordinator, Dr. Richard Suu-Ire of the Wildlife Division of the Forestry Commission, serving as the chair of the team and PREDICT Ghana's Country Coordinator, Dr. Samuel Bel-Nono, participating on the team. In addition, PREDICT/Ghana's Human Disease Surveillance Coordinator, Professor William Ampofo of the Noguchi Memorial Institute of Medical Research, University of Ghana chaired the team that developed the plan for implementing the Biosafety and Biosecurity Action Package with participation by PREDICT's partner in the Ghana Armed Forces, Commander Nyarko.
8	Sierra Leone	PREDICT Sierra Leone actively participated and contributed to the Joint extranl evaluation (JEE) processes (self-evaluation and External Evaluation) in October and December 2016. During these meetings PREDICT SL provided key local expertise and knowledge on emerging zoonotic disease threats and methods to assess risk and build country capacity. PREDICT Sierra Leone actively contributed in the establishment of the National One Health Platform and participated in the national opening day of the platform on 23 June 2017. PREDICT Sierra Leone also contributed technical advice on the development of the official organization schematic and reporting structure for the National One Health/IHR/GHSA programs and the Terms of Reference for various partners involved.

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2	*Includes evidence of Improved coordination of the national focal points with sub-national and community levels; multi-ministry or multi-sectoral teams on the ground (for example, in outbreak investigations).*
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9	Cameroon	In February 2017, PREDICT provided support to the National Program for the Prevention and Control of Emerging and Re-emerging Zoonotic Diseases to prepare and implement a monkeypox virus awareness and surveillance strengthening workshop. This event used a One Health approach to raise awareness and improve surveillance strategies following recent outbreaks in Cameroon and the Central African Republic and focused on the animal species at risk of monkeypox, as well as symptoms, zoonotic transmission, recent outbreaks, and control and prevention measures. PREDICT also assisted the National Veterinary Laboratory to prepare and present on monkeypox surveillance sample collection procedures. PREDICT Cameroon participated in the Joint External Evaluation(JEE) in September 2017, actively contributing in working groups on Zoonosis, National Laboratory Systems, and Biosafety and Biosecurity. Having had a key role in the development of pilot disease surveillance programs in Cameroon, the PREDICT team was able to offer valuable input on Cameroon's capacity to detect and respond to zoonotic diseases that pose public health threats, and share knowledge gained through ongoing PREDICT surveillance and laboratory activities to inform the country's strategy to achieve targets.
10	Kenya	From February 27th to March 3rd, PREDICT Kenya participated in the Joint External Evaluation (JEE), a collaborative public health assessment aligned with the Global Health Security Agenda (GHSA). PREDICT Kenya contributed to this evaluation by identifying a gap in environmental and wildlife antimicrobial resistance (AMR) which was adopted in the JEE final report as a national gap.
11	Senegal	PREDICT Senegal fosters discussions and collaborations on multi-sectoral zoonosis detection and response, in coordination with the national Emergency Health Operations Center (COUS) and provides technical input when requested. PREDICT Senegal also participated in One Health Zoonotic Disease Prioritization Workshop from 20 June - 1 July 2017. PREDICT gave technical assistance to identifying a One Health approach to prioritize endemic and emerging zoonotic diseases of major public health concern that should be jointly addressed by the human, animal and environmental Ministries of Senegal. Priority zoonotic diseases identified were: Rabies, Zoonotic Influenza, Tuberculosis, Hemorrhagic Fever (Marburg and Ebola), Anthrax, and Rift Valley Fever.
12	Ivory Coast	PREDICT CIV was involved in the development of CIV's National Health Security plan via attendance at and participation in a workshop in July of 2017, which prioritizes building laboratory capacity and surveillance of AMR and zoonotic disease at the national level. PREDICT CIV also took part in the GHSA Technical Sector Capacity Building Workshop in Grand Bassam (March 2017), which included different health sectors and established a platform to elaborate the best way to implement a One Health approach to health security at the national level.
13	Liberia	PREDICT Liberia participated in the development of the National One Health Platform and National Action Plan for Health Security with other stakeholders. PREDICT Liberia also contributes to the public health lab surveillance strategy by training lab personnel from the NPHIL and MoA to conduct surveillance for known and unknown filoviruses using PREDICT lab protocols. Through a public-private partnership with Arcelor Mittal (AML), a global iron ore mining company with a significant presence in Liberia, PREDICT worked with AML to support screening bats being translocated as part of mining operations for Ebola and related viruses. This was part of a national strategy Liberia and AML had developed for mitigating the effects of disturbance of wildlife reservoirs for ebola viruses as part of planned extractive industry operations.
14	Rwanda	PREDICT Rwanda participated in the One Health Zoonotic Disease Prioritization workshop held June 20-21 and organized by the US Centers for Disease Control. As well, PREDICT/Rwanda participated in the Rwanda One Health Steering Committee's One Health Systems Mapping and Analysis Resource (SMART) workshop for mapping cross-sectoral collaboration for prioritized zoonotic disease investigation, held July 11-13 and Sept 14, 2017. These meetings were organized by the One Health Central-East Africa (OHCEA) network, and helped identify workforce gaps for priority zoonotic disease investigation and outbreak response.

	A	B
15	**ASIA**	
16	Cambodia	PREDICT Cambodia is partnering with the Institut Pasteur du Cambodge (IPC), which is actively testing animal and human samples and training staff from the National Animal Health and Production Research Institute (NAHPRI) and the National Institute of Public Health (NIPH), in addition to PREDICT partners from labs in the neighboring Southeast Asia region including, most recently, laboratory staff from Myanmar's Livestock Breeding and Veterinary Department (LBDV) in order to transfer protocols for viral family screening.
17	Nepal	PREDICT Nepal team/CMDN is a key facilitator of One Health research methods in the country PREDICT Nepal worked with the State Department of USA to bring together stakeholders – governmental and non-governmental organizations to plan and further promote One Health-based approaches in the country and region.
18	China	PREDICT China in-country partner at Wuhan Institute of Virology of Chinese Academy of Sciences actively contribute to the Chinese national "The Belt and Road Initiative" strategy (under the Health Silk Road) for capacity building of biosafety laboratory management in the countries along the "Belt and Road" region. The 1st International Workshop on Biosafety Laboratory Management and Experimental Techniques was held on 18-28 October, 2017 in Wuhan, where PREDICT in-country staff from Thailand, as well as other ~20 participants from different countries who conduct infectious diseases research in biosafety facilities were invited to attend and receive trainings on laboratory biosafety and practice in high level biosafety laboratories.
19	Vietnam	PREDICT Viet Nam contributed project materials for the 3rd Coordination Conference for the Zoonotic Diseases Action Package (ZDAP): "Strengthening Cooperation and Sharing Effective Approaches" held in Da Nang, Viet Nam hosted by the Government of Viet Nam. The conference had representatives from the Ministry of Health together with the Ministry of Agriculture and Rural Development, and was chaired by representatives from Viet Nam, Indonesia, and Senegal. The overall objectives were to strengthen cooperation and share best practices and key action items among GHSA participating countries in implementing the Zoonotic Disease Action Package. The materials covered information on project activities, including highlights, updates about surveillance and field activities, laboratory development/testing, capacity building, stakeholder engagement, and partner coordination.
20	Mongolia	In collaboration with an FAO/OIE initiative PREDICT Mongolia is providing technical support to the Mongolian government in its efforts to incorporate wildlife into its National Peste des Petits Ruminants Eradication Strategy. PREDICT Mongolia staff have been involved in the process of drafting the strategy in consultation with the FAO/OIE and Mongolian Government technical teams. Lessons learned from PREDICT related to building national laboratory capacity for disease detection, and field-based capacity to implement protocols for wildlife disease surveillance, have been emphasized during the PPR strategy development process.
21	Myanmar	The PREDICT Myanmar team actively participated and provided technical inputs in developing the One Health Plan and Implementation Framework in collaboration with FAO and WHO. This process was led by the Ministry of Health & Sports (MOHS) in collaboration with Ministry of Livestock, Agriculture, & Irrigation (MOLAI) and Ministry of Natural Resources & Environmental Conservation (MONREC). PREDICT Myanmar has prepared a preliminary Memorandum of Understanding with MOHS to lend assistance for outbreak response and to train MOHS personnel and national laboratory personnel in field surveillance techniques, biosafety, PPE, and relevant lab protocols.
22	Thailand	PREDICT PCR protocol technology has been transferred to the Ministry of Public Health and used to characterization Enterovirus by the national surveillance program for Hand, Foot, and Mouth disease by the Bureau of Epidemiology, Department of Disease Control.
23	**MIDDLE EAST (Regional)**	
24	Jordan	PREDICT Jordan contributed technical advice to a workshop on "Bridging Performance Veterinary Service (PVS) and the International Health Regulations (IHR), and the Development & Costing of National Action Plans for Health Security" in Amman, Jordan, from 29 October – 2 November 2017.

	A	B
1	**NEW INDICATOR**	
2	**Indicator 3.2a**	**#, list of high-level multisectoral and/or multilateral events coordinated *include list of countries/regional involved and/or sectors represented, title and topic of event, date(s) of event, and key outcomes/deliverables of the event**
3	**Indicate Country, Region or Global**	
4	**Africa**	
5	Ghana	PREDICT/Ghana hosted the United States Ambassador to Ghana, Robert P. Jackson, for a visit to the Boabeng-Fiema area, a key PREDICT/Ghana disease surveillance site. The visit began with a ceremony among the local chiefs, representatives from the regional administration, assembly members, district health officers, wildlife division officers, and community members. During the ceremony, the Ambassador acknowledged PREDICT's efforts to help prevent diseases with pandemic potential and noted the U.S. government's commitment to collaborate with local and international organizations to fight infectious diseases. The Ambassador expressed his content that PREDICT was working in Ghana and recognized PREDICT as one of the most visible global health programs from USAID in the African region. He emphasized the U.S. government's commitment to creating partnerships with local and national organizations to apply the One Health approach and counter diseases of pandemic potential. Following the ceremony, the PREDICT Ghana Country Coordinator, Dr. Samuel Bel-Nono, and Dr. Meyir Zeika from the Wildlife Division accompanied the Ambassador on a tour of the monkey sanctuary, a PREDICT/Ghana research site where they discussed PREDICT activities. The Ambassador and his staff observed the field team conducting non-invasive sampling of saliva from the Mona monkeys, according to PREDICT protocols. The Mona monkeys visit the communities to feed, freely enter peoples' homes, and forage alongside livestock in the fields. Additionally, this visit provided an opportunity for the United States Ambassador to interact with community leaders and members directly impacted and benefiting from PREDICT's surveillance work. Overall, this visit highlighted a snapshot of the critical work that PREDICT/Ghana as well as other PREDICT teams are doing in communities across Africa and Asia to conduct critical disease surveillance. In addition, PREDICT Ghana held a meeting on August 11, 2017 to bring together key partners from the Ghana Health Service national headquarters, regional health authorities, Ghana Armed Forces Medical Hospital, Veterinary Services Directorate of the Ministry of Food and Agriculture and the Wildlife Division of the Forestry Commission at the Noguchi Memorial Medical Research Institute, University of Ghana. The goal of the meeting was to plan PREDICT Ghana's activities in country meeting and discuss coordination on disease surveillance and laboratory activities.
6	Sierra Leone	PREDICT Sierra Leone coordinated five high-level engagement meetings with senior district and national level government officials to discuss PREDICT implementation in five districts. In total, these meetings were attended by over 250 individuals including representatives from the GoSL (MOHS and MAFFS), the local distirct/village council and other stakeholders during the one day meetings. These meetings were also attended by other EPT partners including WHO, FAO, P&R and USAID.
7	Ivory Coast	PREDICT Côte d'Ivoire hosted the departmental directors of the agencies of Human Health, and of the Animal Resources, of Waters and Forests and of the Environment at the launch of the project in Côte d'Ivoire in July at Bonon (Bouaflé). Key outcomes included ministerial support for the One Health-focused PREDICT project, as well as the facilitation of cooperation amongst these ministries towards a common goal of supporting One Health in action.
8	**ASIA**	

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2	*Only include events coordinated by PREDICT; high-level include senior-level government officials, private sector executives, decision-makers in OH-related institutions, university presidents or rectors or deans, etc; multiple sectors can be from one single scountry or multiple countries; multi-lateral refers to the involvement of two or more country governments*
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	A	B
9	Nepal	PREDICT Nepal, along with the entire CMDN team, organized a One Health Platform workshop focused on Nepal's Zoonotic Disease Pandemic Preparedness for South Asia. This workshop was held in March 2017 to collate ideas and techniques from national and international experts from Bhutan, Bangladesh, India, Nepal and the US, along with representatives from FAO (Regional Office-Thailand), WHO (Nepal), and CDC (India). Participants were from multifaceted background to emphasize and implement the One Health approach to tackling the threat of emerging zoonotic diseases and allowed for sharing best practices for emerging zoonotic diseases surveillance and pandemic preparedness, strengthening national/regional zoonotic disease surveillance and research capacity, and encouragement of multi-disciplinary collaborations to expand One Health practices in the region.
10	China	PREDICT China in-country partner at Wuhan Institute of Virology of Chinese Academy of Sciences coordinated and participated in the 2nd China-U.S. Workshop on the Challenges of Emerging Infections, Laboratory Safety and Global Health Security, co-organized by the U.S. National Academy of Sciences, on 17-19 May, 2017. The workshop focused on strengthening China-U.S collaborations to proactively respond to emerging infectious diseases and global health security issues, with improved laboratory biosafety and management, research ethnics, novel biotechnology, and governance. http://english.whiov.cas.cn/News/Int_Cooperation_News/201707/W020170815340112395455.pdf
11	Malaysia	May 2017 – PREDICT Malaysia team launched the DTRA-funded "Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia Project." During the launch, the PREDICT Country Coordinator presented IDEEAL and PREDICT work in Malaysia. 50 people attended from the US Embassy (including the Counselor for Economic Affairs, and the Environment, Science & Technology Officer), DTRA CBEP (including Southeast Asia Regional Science Manager), MOH (including the acting Deputy Director General and the Director of the National Public Health Laboratory), DVS (including the Senior Director Biosecurity & SPS Management Division and the Director of VRI), PERHILITAN (including the Deputy Director General), UPM and UM. This was an excellent opportunity to update our partners on progress with PREDICT. Senior staff from our Malaysian government partners reaffirmed their continuing support for the PREDICT project and their enthusiasm for the serological screening that can now be included through the DTRA project.
12	Myanmar	The Ministry of Health & Sports (MOHS) has brought together key partners including CDC, WHO, FAO, and PREDICT to prioritize One Health implementation throughout Myanmar. As the only partner working directly with wildlife, livestock, and humans concurrently, PREDICT has been positioned as an instrumental partner in this mission. Other ministries including the Ministry of Livestock, Agriculture, & Irrigation (MOLAI) and Ministry of Natural Resources & Environmental Conservation (MONREC) have been encouraged to join the One Health discussions, largely due to the collaborative work performed with PREDICT.

Multiple meetings have been held for this year with MOHS, organized by PREDICT Country Coordinator (CC) to spearhead outbreak response planning. The PREDICT Myanmay Country Coordinator has also coordinated individual meetings with university presidents including the University of Veterinary Sciences, University of Medicine (1), University of Yangon, Zoology Department, University of Public Health, and the University of Community Health to discuss the PREDICT project and to garner support for the One Health implementation supporting the mission of the MOHS. |
| 13 | Bangladesh | PREDICT/Bangladesh helped coordinate the 9th One Health Conference, Bangladesh on 16-17 September, 2017. Participating multisectoral groups in the conference included: DLS, Forestry Department, Directorate General of Health Services (DGHS), BLRI, Chittagong Veterinary and Animal Sciences University (CVASU), icddr,b, WHO, FAO, UNICEF, USAID, International Union for Conservation of Nature (IUCN), CDC and Relief International. The conference covers five themes- Emerging Infectious Disease, Antimicrobial Resistance, One Health Governance and Advocacy, Food Safety and Security, Ecosystem Health and Conservation. |

	A	B
14	Indonesia	PREDICT Indonesia wildlife surveillance team conducted a one-day national seminar in collaboration with the Primate Research Center at Bogor Agricultural University and the Indonesian Wildlife, Aquatic, and Exotic Animal Veterinarian Association entitled "Current Issues in Conservation Medicine of Indonesian Nonhuman Primates and Other Wildlife to Support Human and Animal Welfare Practices" on November 29, 2016, in Bogor. Approximately 130 participants from across Indonesia took part in the seminar; participants included veterinarians, biologists, conservationists, and researchers from the government and private sector. PREDICT Indonesia presented their wildlife surveillance activities in the seminar. PREDICT Indonesia assisted in the organization and implementaiton of a Virology Seminar and Workshop entitled "Uncovering Zoonotic and Emerging Viruses in Indonesia" on May 15-17, 2017 at the Eijkman Institute for Molecular Biology, Jakarta. The purpose of the events was to improve the capacity of participants to identify and characterize emerging zoonotic viruses as an effort to strengthen Indonesia's diagnosis capability – particularly within the human health sector. 65 participants (49 women and16 men) attended the seminar and 19 participants (13 women and 6 men) attended the workshop. The Seminar participants were from various disciplines and institutions, such as clinicians, laboratory technicians and biomedical researchers from universities, hospitals and government laboratories. Invited participants included the Centre for Environmental Health and Disease Control (BBTKL), Centre for Health Laboratory (BLK), Zoonosis Sub Directorate Ministry of Health, and medical faculties. During the workshop, participants learned biosafety, molecular virus detection, and bioinformatics data analysis.
15	Thailand	On January 31st, 2017, PREDICT assisted with the organization of a Global Virome Project seminar at Chulalongkorn University Hospital. Dr. Dennis Carroll (USAID) presented on the GVP project to more than 200 participants from governmental and academic sectors in Thailand. Information presented at the seminar was first shared with the public including individuals from the human and animal health sectors.
16	**MIDDLE EAST (Regional)**	
17	Jordan	PREDICT-Jordan assisted in the organization of a technical coordination workshop titled, "Advancing Health Security in Jordan - Linking People, Animals and Environment" on February 26, 2017 in Amman, Jordan. The event was attended by senior officials from USAID/Jordan, World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE), Ministry of Agriculture (MOA), Ministry of Health (MOH), Ministry of Environment (MOE), World Health organization (WHO), as well as the Dean of Research, Dean of Medicine, Dean of Veterinary Medicine, professors and master 's from the Jordan University of Science and Technology (JUST). A total of 40 participants attended the workshop. The aims of this workshop were to promote, organize, and coordinate all the efforts made by different stakeholders and partners on the national and international levels namely MOA, MOH, MOE, WHO, FAO, OIE and JUST in the One Health Approach to increasing Health Security. At the end of the technical sessions of the workshop, a strategic work plan and recommendations to advance collaboration and strengthen the One Health concept were proposed.
18	**GLOBAL**	
19		14 September 2017: PREDICT hosted a Global Health Security Agenda event on public-private partnerships to tie into the UN General Assembly. Public and private sector partnerships for pandemic prevention and preparedness reinforced by key stakeholders (including governments, technical organizations, and supply distributors) with commitments of support for GHSA 2.0.
20		27 May 2017: PREDICT coordinated a side event on pandemic prevention at UN Global Platform for Disaster Risk Reduction (with speakers from UNISDR, World Bank, CBD and ECDC). The official statement on health disaster risk reduction highlighting PREDICT strategies issued to Delegates following side event; issued jointly with UNISDR, UN Biodiversity Convention, EcoHealth Alliance and European Centre for Disease Prevention and Control. Posted at:
21		http://www.unisdr.org/conferences/2017/globalplatform/en/programme/statements

	A	B
22		3 May 2017: PREDICT coordinated a meeting between CBD health and biodiversity focal lead, WHO One Health team, and WHO environmental health department to discuss role of environment in health security. This meeting improved coordination between departments and organizations on environment and health security links (e.g. WHO One Health team invited to participate in CBD efforts and vice versa, WHO One Health team participated in CBD-WHO Interagency Liaison Group meeting, call organized by CBD with WHO One Health team, PREDICT and other partners regarding environmental dimensions of WHO-FAO-OIE Tripartite priorities).
23		29 March 2017: PREDICT hosted a session on One Health at the AAAS Science Diplomacy conference (with World Bank and USAID). This session reinforced the importance of preparedness for pandemics, including the economic rationale, and the need for country-level capacity strengthening and multisectoral partnerships for health security. The session helped disseminate key messages from the World Bank One Health Operational Framework (including appropriate entry points for One Health operations).
24		7 December 2017: PREDICT hosted a side event on One Health at the CBD 13th Conference of the Parties (with partners inlcuding CBD Secretariat, UNEP, PAHO, WHO, IUCN). On December 14th CBD delegates adopted a decision on health and biodiversity (CBD/COP/DEC/XIII/6) that called on the CBD Secretariat to prepare guidance to support the consideration of biodiversity and ecosystem management in the application of the "One Health" approach. PREDICT helped inform development of the draft One Health guidance.
25		4 December 2017: PREDICT organized a symposium on 'future health' at the One Health/EcoHealth Congress (with FAO, NASA, Future Earth, and Bioversity International). Health disaster risk reduction was prioritized as an area of work under the Future Earth oneHEALTH project and Future Earth Health Knowledge-Action Network (a convener for global environmental change research and policy outreach), including emphasis on horizon scanning for emerging disease threats. Additionally, this symposium enhanced familiarity from Congress attendees on relevant preparedness, policy and planning frameworks to help mitigate disease risks.

	Indicator 3.2b	Total # tools for implementation and operationalization developed	**Provide a description of each tool**: summary of topic and purpose of tool developed (include country)	D
2	**WEST AFRICA (Regional)**			
3	Cameroon			
4	Cote d'Ivoire			
5	Gabon			
6	Ghana			
7	Guinea			
8	Liberia			
9	Senegal			
10	Sierra Leone			
11	**EAST & CENTRAL AFRICA (Regional)**			
12	DRC			
13	Ethiopia			
14	Kenya			
15	RoC			
16	Rwanda			
17	South Sudan			
18	Sudan			
19	Tanzania			
20	Uganda			
21	**ASIA (Regional)**			
22	Bangladesh			
23	Cambodia			
24	China			
25	India			
26	Indonesia			
27	Lao PDR			
28	Malaysia			
29	Mongolia			
30	Myanmar			
31	Nepal			
32	Philippines			
33	Thailand			
34	Vietnam			
35	**MIDDLE EAST (Regional)**			
36	Egypt			
37	Jordan			

	A	B	C	D
38	GLOBAL	7	● World Bank One Health Operational Framework ●National capacity assessment tool for Environmental Health Services (with World Bank) ● One Health outbreak simulation exercise for students ● Methodology for country-level economic analysis of One Health through an expert workshop held at the World Bank in February 2017 (workshop report) ● One Health data collection form for countries ● Comments to expand role of environment sector in WHO guide for national action planning for health security ● Proposed revisions to the WHO Joint External Evaluation tool to reflect wildlife pathogen surveillance needs	
39	*for the period 10/1/16-9/30/17 ONLY			
40	Total	7		Regular information, education, and communication materials such as t-shirts, posters, flyers, leaflets, brochures, fact sheets are not counted under this indicator.

	A	B	C	D	E	F	G
	Indicator 3.2c, 3.2d	Total # evidence-based informational resources developed	# policy briefs	# research papers	# situational analysis/risk assessment	# zoonotic prioritization resources	#Other
1							
2	**WEST AFRICA (Regional)**						
3	Cameroon						
4	Cote d'Ivoire						
5	Gabon						
6	Ghana	1		1			
7	Guinea						
8	Liberia						
9	Senegal						
10	Sierra Leone						
11	**AST & CENTRAL AFRICA (Regional)**						
12	DRC						
13	Ethiopia						
14	Kenya						
15	RoC						
16	Rwanda	2		2			
17	South Sudan						
18	Sudan						
19	Tanzania						

	H	I	J	K
1	**Provide a list and brief description of each resource:** include a summary of the subject/topic, include country/region			
2				
3				
4				
5				
6	Suu-Ire, R., S.O. Bel-Nono, J. A. Awuni, W. Ampofo, E. Obodai, J. Mazet, T. Asigbee, L. Boatemaa, V.B. Sedor, F. Asiedu-Bekoe, M. Adjabeng, O. Dogbe, A.N.O. Commey, E. Nyarko, K. Araya, the PREDICT Consortiu, and T.R. Kelly. 2017. PREDICT: Designing a One Health Surveillance Strategy for Emerging Diseases at the Human-Animal Interface in Ghana. The 3rd African Conference on Emerging Infectious Diseases and Biosecurity, Accra, Ghana. August 16-18, 2017.			
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15				
16	1) Kelly, TR, WB Karesh, C Kreuder Johnson, KVK Gilardi, SJ Anthony, T Goldstein, SH Olson, C Machalaba, PREDICT Consortium, and JAK Mazet. One Health proof of concept: Bringing a transdisciplinary approach to surveillance for zoonotic viruses at the human-wild animal interface. Preventive Veterinary Medicine 137B: 112-118. 2)Evans, TS, LJ Lowenstine, KV Gilardi, PA Barray, BJ Ssebide, JF Kinani, F Nizeyimana, JB Noheri, MR Cranfield, A Mudakikwa, T Goldstein, JAK Mazet, and CK Johnson. Mountain gorilla lymphocryptovirus has Epstein-Barr virus-like epidemiology and pathology in infants. Scientific Reports 7, 5352.			
17				
18				
19				

	A	B	C	D	E	F	G
20	Uganda	3		3			
21	**ASIA (Regional)**						
22	Bangladesh	2		2			
23	Cambodia	2		2			
24	China	1		1			
25	India						
26	Indonesia	1		1			

	H	I	J	K
20	1) Kelly, TR, WB Karesh, C Kreuder Johnson, KVK Gilardi, SJ Anthony, T Goldstein, SH Olson, C Machalaba, PREDICT Consortium, and JAK Mazet. One Health proof of concept: Bringing a transdisciplinary approach to surveillance for zoonotic viruses at the human-wild animal interface. Preventive Veterinary Medicine 137B: 112-118. 2) Anthony SJ, K. Gilardi, VD Menachery, T Goldstein, B Ssebide, R Mbabazi, I Navarrete-Macias, E Liang, H Wells, A Hicks, A Petrosov, DK Byarugaba, K Debbink, KH Dinnon, T Scobey, SH Randell, BL Yount, M Cranfield, CK Johnson, RS Baric, W I Lipkin, and JAK Mazet. Further evidence for bats as the evolutionary source of MERS Coronavirus. mBio 8(2): e00373-17. 3) Evans, TS, LJ Lowenstine, KV Gilardi, PA Barray, BJ Ssebide, JF Kinani, F Nizeyimana, JB Noheri, MR Cranfield, A Mudakikwa, T Goldstein, JAK Mazet, and CK Johnson. Mountain gorilla lymphocryptovirus has Epstein-Barr virus-like epidemiology and pathology in infants. Scientific Reports 7, 5352.			
21				
22	1) Al-Faruq, A., Hassan, M. M., Uddin, M. M., Rahman, M. L., Rakib, T. M., Alam, M., & Islam, A. (2016). Prevalence and multidrug resistance pattern of Salmonella isolated from resident wild birds of Bangladesh. International Journal of One Health, 2, 35–41. 2) Islam S., Islam A., Parvin Moni S., Bari S., Islam K., Chakma S., Hossain E., Ferdous Siddiqe Z., Belal Hoassain M. & Chowdhury S. 2016. A cross sectional study of Infectious Bursal Disease and Newcastle Disease in poultry in Narsingdi district of Bangladesh. Journal of Advanced Veterinary and Animal Research, Vol 3 No 4, Pages 406-412. ISSN 2311-7710. http://doi.org/10.5455/javar.2016.c181			
23	1) Lacroix, A.; Duong, V.; Hul, V.; San, S.; Davun, H.; Omaliss, K.; Chea, S.; Hassanin, A.; Theppangna, W.; Silithammavong, S.; et al. Genetic diversity of coronaviruses in bats in Lao PDR and Cambodia. Infect. Gen. Evol. 2017, 48, 10–18. 2) Lacroix, A.; Duong, V.; Hul, V.; San, S.; Davun, H.; Omaliss, K.; Chea, S.; Hassanin, A.; Theppangna, W.; Silithammavong, S.; et al. Diversity of bat astroviruses in Lao PDR and Cambodia. Infect. Gen. Evol. 2017, 47, 41–50.			
24	Yang, X. L., Zhang, Y. Z., Jiang, R. D., Guo, H., Zhang, W., Li, B., ... & Li, S. Y. (2017). Genetically diverse filoviruses in Rousettus and Eonycteris spp. bats, China, 2009 and 2015. Emerging infectious diseases, 23(3), 482.			
25				
26	Occurrence of measles genotype D8 during a 2014 outbreak in Banjarmasin, South Kalimantan, Indonesia. Int J Infect Dis. 2017 Jan;54:1-3. doi: 10.1016/j.ijid.2016.10.029. Epub 2016 Nov 4. https://www.ncbi.nlm.nih.gov/pubmed/27825950			

	A	B	C	D	E	F	G
27	Lao PDR	1		1			
28	Malaysia						
29	Mongolia						
30	Myanmar	4		4			
31	Nepal	1		1			
32	Philippines						
33	Thailand						
34	Vietnam	2		2			

	H	I	J	K
27	Lacroix, A., Duong, V., Hul, V., San, S., Davun, H., Omaliss, K., . . . Buchy, P. (2017). Diversity of bat astroviruses in Lao PDR and Cambodia. *Infection, Genetics and Evolution*, 47, 41-50. doi:10.1016/j.meegid.2016.11.013			
28		Paper listed by country was put in Global section		
29				
30	1)Aung, O, Yan Naing Tun, K, Valitutto, M, Zimmerman, D, Murray, S. Experiences and lessons learned from wildlife and livestock sampling for zoonotic disease surveillance in selected potential high-risk areas of Myanmar. 2018. Prince Mahidol Award Conference 2018. Bangkok, Thailand. 2) Davies HS, Vodzak ME, Aung O, Valitutto MT, Tun KYN, Murray S, Zimmerman DM, and von Fricken ME. 2017. Emerging bat pathogens in Myanmar: A roadmap for surveillance of potential spillover related to cave utilization. Annual meeting of the American Society of Tropical Medicine and Hygiene (AMSTH). Baltimore, MD. 3) Valitutto M, Vodzak ME, Murray S, Zimmerman DM, Aung O. 2017. Evaluation of High-Risk Human-Wildlife Interfaces in Myanmar For Emerging Viral Threats. Wildlife Disease Association Conference: Chiapas, Mexico. 4)Vodzak ME, Aung O, Valitutto MT, Tun KYN, Davies HS, von Fricken ME, Murray S, and Zimmerman DM. 2017. Caves of Myanmar: a high-risk human-wildlife interface for zoonotic disease. 2nd International Symposium on Infectious Diseases of Bats. Fort Collins, CO.			
31	Kelly, T., Karesh, W., Johnson, C., Gilardi, K., Anthony, S., & Goldstein, T. et al. (2017). One Health proof of concept: Bringing a transdisciplinary approach to surveillance for zoonotic viruses at the human-wild animal interface. Preventive Veterinary Medicine, 137, 112-118. http://dx.doi.org/10.1016/j.prevetmed.2016.11.023			
32				
33				
34	Lacroix, A., V. Duong, V. Hul, S. San, H. Davun, K. Omaliss, S. Chea, A. Hassanin, W. 1)Theppangna, S. Silithammavong, K. Khammavong, S. Singhalath, A. Afelt, Z. Greatorex, A. E. Fine, T. Goldstein, S. Olson, D. O. Joly, L. Keatts, P. Dussart, R. Frutos and P. Buchy (2017). "Diversity of bat astroviruses in Lao PDR and Cambodia." Infection, Genetics and Evolution 47: 41-50. 10.1016/j.meegid.2016.11.013. Lacroix, A., V. Duong, V. Hul, S. San, H. Davun, K. 2)Omaliss, S. Chea, A. Hassanin, W. Theppangna, S. Silithammavong, K. Khammavong, S. Singhalath, Z. Greatorex, A. E. Fine, T. Goldstein, S. Olson, D. O. Joly, L. Keatts, P. Dussart, A. Afelt, R. Frutos and P. Buchy (2017). "Genetic diversity of coronaviruses in bats in Lao PDR and Cambodia." Infection, Genetics and Evolution 48: 10–18. 10.1016/j.meegid.2016.11.029.			

	A	B	C	D	E	F	G
35	**MIDDLE EAST (Regional)**	**2**		**2**			
36	Egypt	1		1			
37	Jordan	1		1			
38	**GLOBAL**	**5**	**5**				
39	**GLOBAL**	**25**		**23**			**2**
40	*for the period 10/1/16-9/30/17 ONLY*						
41	**Research Papers:**						
42	Machalaba C, Smith K, Awada L, Berry K, Berthe F, Bouley T....Karesh WB. 2017. One Health Economics to Confront Disease Threats. *Transactions of the*						
43	Davis MF, Rankin SC, Cole S, Conti L, Rabinowitz P, COHERE Expert Review Group. 2017. Checklist for One Health Epidemiological Reporting of Evidenc						
44	Baum S, Machalaba C, Daszak P, Salerno RH, Karesh WB. 2017. Evaluating One Health: Are we Demonstrating Effectiveness? One Health. 3:5–10.						
45	Smith KM, Zambrana-Torrelio C, White A, Assmussen M. et al. 2017. Summarizing US Wildlife Trade with an Eye Toward Assessing the Risk of Infectious D						
46	Machalaba C, Romanelli C, and Stoett P. 2017. Global Environmental Change and Emerging Infectious Diseases: Macrolevel Drivers and Policy Response						
47	Stoett P, Daszak P, Romanelli C. Machalaba C. et al. 2016. Avoiding catastrophes: seeking synergies among the public health, environmental protection, a						
48	Smith KM, Machalaba C, Jones H, Caceres P, Popovic M, Olival KJ, Ben Jebara K, Karesh WB. 2017. Wildlife hosts for OIE-Listed diseases: consideration						
49	Sotomayor-Bonilla J., Abella-Medrano A., Chaves A., Álvarez-Mendizábal P. et al. 2017. Potential Sympatric Vectors and Mammalian Hosts of Venezuelan						
50	Cunningham, A., A., Daszak, P., Wood, J.L.N. (2017). One Health, emerging infectious disease and wildlife: two decades of progress? *Philosophical Transa*						
51	Garland-Lewis, G., Whittier, C., Murray, S., Trufan, S., & Rabinowitz, P. M. (2017). Occupational Risks and Exposures Among Wildlife Health Professionals.						
52	Wray, A. K., Olival, K. J., Morán, D., Lopez, M. R., Alvarez, D., Navarrete-Macias, I., … Anthony, S. J. (2016). Viral Diversity, Prey Preference, and Bartone						
53	Olival, K. J., & Willoughby, A. R. (2017). Prioritizing the "Dormant" Flaviviruses. *EcoHealth*, *14*(1), 1–2. doi:10.1007/s10393-017-1220-6						

	H	I	J	K
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	A	B
1	New Indicator	
2	**Indicator 3.2e**	**#, list of community** OH events coordinated *include title of event, date of event, brief description of the event including topic focus, geographic location (city/village/locale) and country in which it took place
3	**Indicate Country, Region or Global**	
4	Guinea	PREDICT Guinea conducts community sensitization meetings and engages in regular communications with district and community leaders down to the household level. These activities happen continuously in all sites, before, during and after surveillance activities. PREDICT Guinea held over 21 community engagement sessions in Year 3.
5	Tanzania	PREDICT Tanzania conducted community sensitization meetings in PREDICT sites in the lake zone region where 188 community leaders from 8 villages were introduced to PREDICT's One health approach surveillance of important viral zoonotic pathogens. Besides creating awareness of PREDICT activities, relevance of appropriate basic biosafety and biosecurity practices were discussed with the communities.
6	Ghana	PREDICT assisted with coordination of a community awareness forum to celebrate World Rabies Day on September 28, 2017. The event was held in Suhum, a town in the Eastern Region of Ghana that is a hotspot for rabies. The event was sponsored by Rabies in West Africa (RIWA) in conjunction with the Ghana Veterinary Services Directorate, the Suhum Municipal Assembly, and World Animal Protection. The PREDICT/Ghana Wildlife Coordinator, Dr. Richard Suu-Ire, leads RIWA's activities in Ghana. Dr. Suu-Ire along with PREDICT Ghana's country coordinator, Dr. Samuel Bel-Nono and PREDICT's partner at Ghana Health Service, Dr. Asiedu-Bekoe helped organize the event. The forum brought together veterinarians, health workers, NGOs/IGOs, social workers, farmers, and pet owners, to enhance capacity among health personnel in rabies management and to conduct education and outreach to the community on rabies and preventive measures. The event increased awareness in the Suhum community on the threat of rabies and the One Health approach that the government of Ghana is using to tackle the disease.
7	Sierra Leone	As part of routine PREDICT Sierra Leone activities, prior to each field sampling trip the team held one health community engagement meetings with local village stakeholders, councils, and local MOH and MAFFS officials to discuss zoonotic diseases transmission concepts and possible prevention activities in relation to PREDICT project goals and activities.
8	Cameroon	PREDICT Cameroon organized and conducted information sessions on zoonotic disease transmission and risk-reduction methods at markets before bushmeat sample collection, with the support of regional and divisional staff from the Ministry of Livestock and Wildlife. Over the course of five meetings (November, December 2016, March, April, May 2017) about 60 people from Sangmelima and Ebolowa markets attended these sessions to receive information and discuss the risk of disease transmission during contact with wild animals during hunting, transportation, handling and butchering throughout the animal value chain. In PREDICT Cameroon sites for peri-domestic sampling of rodents and bats, community engagement sessions were held at the beginning of each field trip to inform the community of the work that is being done, and the importance of the relationships between animals, humans, the environment, and disease. These meetings involved group discussions and advice on how to reduce the risk of disease transmission between the animals and people in the community. PREDICT Cameroon conducted community engagement sessions in Sangmelima in January, April and June 2017, and in Meyomesala in February and July 2017.

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2	*Includes community-engagement and outreach, faculty/student clubs, trainings of community members/workers (e.g., farmers poultry handlers), risk communication events targetd at the community, and community/civil society stakeholder engagement (FAO, OHW) such as village meetings, Rabies day campaign, communication events, etc.*
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	A	B
9	Kenya	"Community and Occupational Risk for Zoonotic Disease": PREDICT Kenya engaged local community members in the town hall to discuss emerging infectious diseases that may spill over from wildlife or domestic animals in the community. Sept. 23, 2017 – Mpala, Laikipia North, Kenya, Sept. 30, 2017 – Lekiji, Laikipia North, Kenya "Zoonotic Disease Risk and One Health in Turkana": PREDICT Kenya discussed wildlife and livestock disease risks and safe practices with 18 Kenya Wildlife Service rangers based in the South Turkana Outpost. April 25, 2017 – South Turkana National Reserve, Kenya
10	Senegal	PREDICT Senegal conducts community sensitization meetings and engages in regular communications with district and community leaders down to the household level. PREDICT Senegal held over 6 community engagement events in Year 3.
11	Ivory Coast	In May and September 2017, local PREDICT Ivory Coast staff worked with village authorities and chiefs where samples were being collected (in Bonon (Bouaflé) in the center-west of CIV as well as in the Marahoué National Park) to explain the importance and goals of this work, and to introduce the 'one health' term.
12	Liberia	The PREDICT Liberia team met with community leaders of identified sampling sites to ensure proper messaging and sensitization prior to sampling.
13	**ASIA**	
14	Nepal	Along with surveying and sampling, PREDICT Nepal regularly screened community members of sampling sites like Jadibuti (Kathmandu) and Silinge (Makwanpur) for FUO. Given their close proximity to animal production sites, the members were also educated and trained in their susceptibility and being aware of possible infections resulting from animal contact/consumption.
15	Lao PDR	During each sampling event of wildlife, livestock, and humans, PREDICT Lao PDR coordinated a village meeting, with the assistance of village elders, to inform the community of the work being done, the relationships between animals, humans, the environment, and disease. Four meetings throughout this year also involved group discussions and guidance on how to reduce the risk of disease transmission between the animals and people in the community.
16	Malaysia	"Voluntary Study of Zoonotic Infections Among Persons Exposed to Wild Animals and Zoonotic Disease Surveillance in Wildlife Community Meeting" – Pos Lenjang, Kuala Lipis. 11 April 2017. The aim of this community meeting was to explain the purpose of study and what the PREDICT Malaysia team will be doing while in the community and to provide education on zoonotic viruses and health risks associated with handling animals and carcasses. Attended by around 120 men and women from local community Yayasan Sime Darby's Environment Day. The Kuala Lumpur Performing Arts Centre. 9 May 2017. PREDICT Malaysia gave a talk "Analyzing the Health Value of a Tropical Forest – New strategies to mitigate Pandemic Potential" to around 20 people. There was a booth handing out materials about IDEEAL and PREDICT and discussing our work and the importance of One Health with members of the public. "Voluntary Study of Zoonotic Infections Among Persons Exposed to Wild Animals and Zoonotic Disease Surveillance in Wildlife Community Meeting" – Pos Balar, Gua Musang. 12 May 2017. The aim of this community meeting was to explain the purpose of study and to provide education about zoonotic viruses and health risks associated with handling animals and carcasses. Attended by around 100 men and women from local community.

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17	Myanmar	Prior to any surveillance activity, the PREDICT Myanmar team meets with community leaders alongside MOHS representatives to explain the PREDICT project and to train volunteer assistants. PREDICT Myanmar team members also have offered One Health lectures to the at large community of physicians in Yangon as part of a Science Series offered by partner laboratory, the Department of Medical Research. In collaboration with Ministry of Natural Resources & Environmental Conservation (MONREC), the PREDICT Myanmar team is planning to conduct a One Health Day around Hlwaga National Park by delivering health talks on "Zoonotic Disease Transmission" and "How to stay safe with Elephants" to the public on November 5th, 2017.
18	Bangladesh	In addition to the coordination of the 9th One Health Conference, between Nov. 23-24, 2016 PREDICT Bangladesh organized a workshop with the Institute of Epidemiology Disease Control and Research (IEDCR) on introducing One Health among young professionals in science. Three MS students were awarded fellowships from Chittagong Veterinary and Animal Sciences University, Bangladesh and they collaborated with PREDICT/Bangladesh by working on antimicrobial resistance in wildlife at human-animal interfaces, Bangladesh.
19	Indonesia	PREDICT Indonesia held multiple village and local community meetings and scoping visits in Northern Sulawesi in preparation for human community surveillance at the start of Year 4.
20	**MIDDLE EAST (Regional)**	

	A	B	C	D	E	F	G	H
1	**Indicator O1**	Total # of in-country staff	Total # of in-country staff who are **from the host country**	Total # of in-country staff who are **from the region (but not host country)**	Total # of in-country staff who are not local or **from the region**	Proportion of in-country staff who are **from the host country**	Proportion of in-country staff who are **from the region (but not host country)**	Proportion of in-country staff who are **not local or regional**
2	**AFRICA (Regional)**							
3	Cameroon	7	7	0	0	100%	0%	0%
4	Cote d'Ivoire	5	5	0	0	100%	0%	0%
5	DRC	10	9	0	1	90%	0%	10%
6	Ethiopia	4	4	0	0	100%	0%	0%
7	Gabon							
8	Ghana	6	6	0	0	100%	0%	0%
9	Guinea	25	25	0	0	100%	0%	0%
10	Kenya	2	2	0	0	100%	0%	0%
11	Liberia	19	18	0	1	95%	0%	5%
12	RoC	6	6	0	0	100%	0%	0%
13	Rwanda	4	4	0	0	100%	0%	0%
14	Senegal	10	9	1	0	90%	10%	0%
15	Sierra Leone	28	28	0	0	100%	0%	0%
16	South Sudan							
17	Sudan							
18	Tanzania	8	7	0	1	88%	0%	13%
19	Uganda	3	3	0	0	100%	0%	0%
20	**ASIA (Regional)**							
21	Bangladesh	11	11	0	0	100%	0%	0%
22	Cambodia	5	5	0	0	100%	0%	0%
23	China	10	10	0	0	100%	0%	0%
24	India	3	3	0	0	100%	0%	0%
25	Indonesia	9	9	0	0	100%	0%	0%
26	Lao PDR	2	2	0	0	100%	0%	0%
27	Malaysia	15	14	0	1	93%	0%	7%
28	Mongolia	3	3	0	0	100%	0%	0%
29	Myanmar	3	2	0	1	67%	0%	33%
30	Nepal	14	14	0	0	100%	0%	0%
31	Philippines							
32	Thailand	9	9	0	0	100%	0%	0%
33	Vietnam	4	4	0	1	100%	0%	25%
34	**MIDDLE EAST (Regional)**							
35	Egypt	0	0	0	0	0%	0%	0%
36	Jordan	1	1	0	0	100%	0%	0%

	I
1	***In-country staff:*** *people employed by implementing partner staff to work on EPT-2 projects in EPT-2 countries.* ***Include only full-time or "most-time" staff*** *(i.e., exclude part-time staff 49% FTE or less, short term consultants)* ***Regions include:*** *East and Central Africa – DRC, Egypt, Ethiopia, Jordan, Kenya, ROC, Rwanda, Tanzania, Uganda; West Africa – Cameroon, Cote d'Ivoire, Ghana, Guinea, Liberia, Senegal, Sierra Leone; Asia – Bangladesh, Cambodia, China, India, Indonesia, Laos, Malaysia, Mongolia, Myanmar, Nepal, Thailand, Vietnam*
2	***for the period 10/1/16-9/30/17 ONLY**
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	A	B	C	D	E	F	G	H
37	**GLOBAL**	226	220	1	6	97%	0%	3%
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41	***for the period 10/1/16-3/31/17 ONLY**							

GHSA CATEGORIES	Prevent Avoidable Epidemics				Detect Threats Early						Respond Rapidly and Effective			
GHSA Action Packages	AMR*	Zoonotic Diseases	Biosafety and Biosecurity of Dangerous Pathogens	Immunization	Laboratory Systems: modern diagnostics 10 core tests	Labs*	Surveillance for 3 core syndromes	Real-time, interoperable biosurveillance	Reporting	Workforce Development	EOC	Multisectoral Response	Medical and non-Medical countermeasures	USAID Country Total
Guinea		6	2		2		2	1	1	3	3	3	0	23
Liberia	X	6	2	X	2	X	2	1	1	3	3	3	0	23
Sierra Leone		6	2		2		2	1	1	3	3	3	0	23

	A	B
1	New Characterization	
2	In Progress	
3	Complete	